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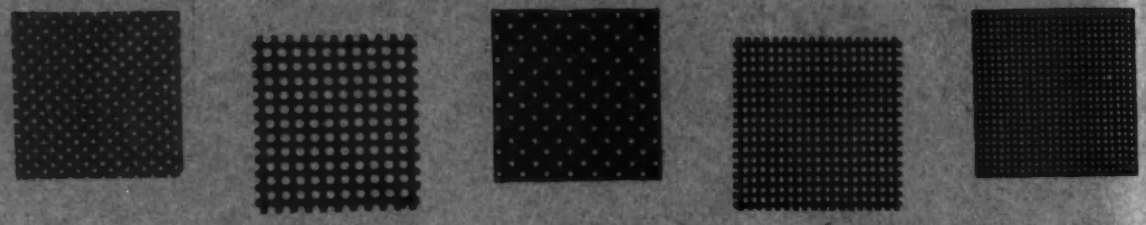

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PAPER TRADE
ESTABLISHED 1872
JOURNAL

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

FIFTY-FIFTH YEAR

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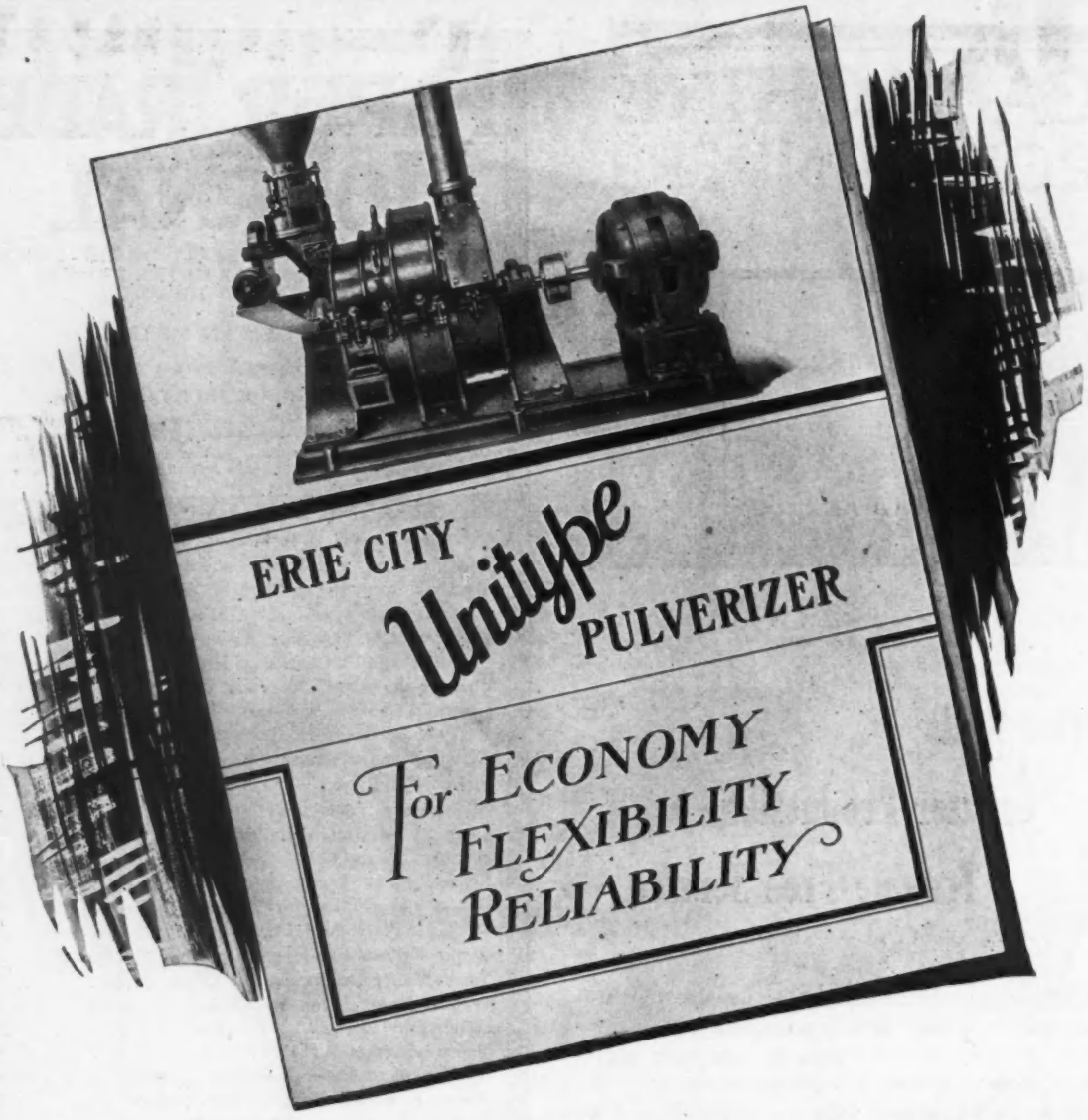

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The Magazine of the Paper Industry

Vol. LXXXIV. No. 3 — Thursday, January 20, 1927

Canadian Pulp and Paper Convention Program

Annual Meeting of Organization at the Ritz-Carlton Hotel, Montreal, Next Thursday and Friday, Promises to be Largely Attended and Most Successful—Many Interesting Addresses to be Given by Prominent Members of the Paper Industry—President L. R. Wilson's Dinner on Friday Night Will Terminate Proceedings

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., January 17, 1927.—The program for the annual meeting of the Canadian Pulp and Paper Association has now been completed, and the indications are that it will again be a largely-attended and most successful affair. The Ritz-Carlton Hotel in Montreal will be the rendezvous.

Technical Section to Meet

The function starts with a meeting of the Technical Section on Thursday, January 26. After the presentation of the usual reports Dr. John S. Bates, chief of the Research Department of Price Brothers & Co., Quebec, will give a paper on "The Utilization of Lime Sludge."

In the afternoon there will be a symposium on "Some Fundamental Factors in the Drying of Paper Products," by Dr. W. J. Lewis, Prof. W. H. McAdams and F. W. Adams, of the Department of Chemical Engineering, Massachusetts Institute of Technology, Cambridge.

L. D. Tatley to Give Paper

A paper will also be given by L. D. Tatley, of the Lawrentide Company, Grand Mere, on "The Distribution of the Uncondensed Gases in Paper Machine Dryers."

On Thursday the meeting of the Section will be continued with a paper on "The Construction and Operation of Segmented Pulp Stones," by W. W. Greenwood, of the Norton Company, Worcester, Mass.; and another paper on "Resins in Paper Making," by Dr. John Campbell, of the Abitibi Power and Paper Company, Iroquois Falls. Then there will be an adjournment for the annual joint luncheon of the Technical and Woodlands Sections, at which Prof. B. K. Sandwell, of Montreal, Que., will be the principal speaker.

In the afternoon there will be a paper on "Steam Generating Units," by John Blizard, of the Power Specialty Company, New York; and a paper on "Combustion Control," by Lieut Col. James Ness, of the Dominion Flour Meter Company, Toronto.

Woodlands Section Arrangements

A meeting of the Woodlands Section will be held on Thursday. The papers to be presented include one on "Practical Considerations in Calculating the Cut," by A. Graham, of the Quebec Forest Industries Association, another on "Practical Handling of Freehold Timberlands," by H. L. Churchill, of the Finch-Pruyn Company, Ltd., Glens Falls; and another on "Fire Protection by the Operator," by W. G. Wright of Price Brothers and Company.

The Woodland Section and the Technical Section will meet at a joint cabaret dinner on Thursday evening.

The annual general meeting of the Association will be held on Friday January 28, under the chairmanship of the president, L. R. Wilson, of the Abitibi Company. The annual luncheon will be held the same day, and the President's dinner at night.

To Build New Paper Plant in Washington

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., January 14, 1927.—The Zellerbach paper interests completed a transaction on January 7 through which a mill site in East Hoquiam, Wash., was acquired for the erection of an immense paper plant. This deal was tentatively announced as being under way early in December.

J. C. Shaw, manager of the Eureka mill, and representative of the Zellerbach company, states that the new mill will be a 150-ton pulp and paper plant, and will be the first unit of what is expected to be at least one of the largest on the west coast.

Grays Harbor Pulp and Paper company is the name of the corporation which will operate the plant, and it is stated that several million dollars will be spent on the entire enterprise, the site for the plant comprising thirty acres.

The company has signed an agreement to use all of the waste material from the Eureka mill and of several other mills on the harbor, and has applied for water rights on the East Hoquiam river and will construct its own water system and filtration plant in case water in commercial quantities cannot be obtained from other sources.

A chipper to grind the hemlock waste of the Eureka mill is already being installed and hoppers to take care of the waste and the pulp will be constructed soon. This is in order that the waste will be ready for use by the time the new pulp mill needs it.

The site of the new mill is in the industrial section of Grays harbor, and has both rail and water facilities. The company will construct fine new docks and loading facilities of modern type.

The products of the new mill will eventually include all kinds of paper for commercial uses, and in order to serve diversified purposes some special machinery will be necessary.

This new plant is the third to be constructed by Zellerbach interests in the State of Washington, the others being located at Shelton and Port Angeles. However, this new plant will be much more extensive than either of the other two.

Plans for the new plant will be started as soon as engineers have made a survey of the site and local conditions.

Demand for Paper Growing in Philadelphia

Contract Orders Near Normal, According to Reports From Wholesalers—All Grades of Fine Paper in Good Request—Thousand Sheet Count, Recommended by American Conference Board, Adopted by Local Trade—Coarse Paper Market Quiet

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., January 17, 1927.—Paper dealers in the Quaker City have been much gratified with the growing demand for many grades of specialties in certain lines. While there is no booming business in these early days of January, there has been a fair well maintained demand, for fine papers, particularly Stocks on hand are low, yet the distributors are not inclined to the buying side of the market pending the more definite trend of business. Mill men have been notably scarce, although the paper dealers believe that they will begin their campaign for 1927 as soon as assured that the inventory days are over. There is not much to be expected from the mill side of the industry until after the dealers have had time to dispose of their hold overs and to clear warehouses of old goods before making commitments for the new year. Contract orders among the wholesalers are reported as near normal, and as a result the mill representatives are greatly enthused over their ability to secure business. They believe this to indicate that consumers are confident of the maintenance of stabilized industrial activities in the current year. The absence of cutting into values, too, has been helpful in inspiring the consumers confidence over the future of the paper market and its more standardized quotations.

Fine Papers Move Satisfactorily

Fine paper dealers express their confidence towards the future of the 1927 markets. They are inclined to believe that there will be a normal and steady demand throughout the year. The present fair demand for all grades of book papers, bonds, writings and coated and cover papers has been a factor towards creating this hopeful attitude. Now that the trade has adopted the 1,000 sheet count, they believe that the printing trades will be more prone to look upon the paper men as their co-workers and will be freer in their orders, reacting to mutual co-operation and benefit to both. The elimination of waste and the preservation of paper brought about under the 1,000 sheet count will also stimulate freer stocking for both printer and paper distributor.

Coarse Papers in Resting Market

A reaction from the holiday market is notable in the coarse paper trade. While the dealers have been booking orders for a few specialized grades, the trend is towards a watching and waiting attitude on the part of industrial consumers. The food trades have been more active than the mercantile or manufacturing industries that are essentially Philadelphia institutions, such as the textile or knit wear producers, now in mid season inactivity.

Mills Quieter.

The mills in the Pennsylvania territory adjacent to the Quaker City are reported at reduced schedule pending the completing of inventory of stocks in the hands of the dealers. Cautious of their output, and an effort to cooperate in the control of supply and demand, the mill men are operating on part time, or confining production only to those grades which are believed to be most needed by the distributors when they return to the buying markets.

Paper Stock Lags

Lagging along in one of the dullest new year markets ever experienced the paper stock dealers are not optimistic over the 1927 outlook for quotations. This is particularly the attitude taken in viewing the present conditions for the cheaper grades of stock consumed in the manufacture of paper boards such as news and chip. Dealers complain that the board men are in the market at the lowest prices since the post war days, and that the manufacturers have absolute control of the situation to make prices to suit themselves. Board has been steadily quoted at from $40 to $42.50 or $45 while paper stock has dwindled until it can now be bought as low as 40 cents when larger tonnage is ordered. The prevailing quotations are from 45 to 55 cents. There is reported a glut of the common grades, and for the first time in many years any sizable accumulation in these cheaper stocks. The wholesale paper stock dealers attribute the accumulation to the war conservation policies and the propaganda to save old news and other papers and the habit for such saving which the public acquired, under the impression that it aids in forest conservation through reconversion of old papers into pulp substitute for wood. This tremendous growth of old paper saving and its accumulation in the dealers' hands gives the mill men the advantage over the stock dealer, who cannot afford to give his space to this bulky and unprofitable grade in warehousing, so much perforce conform to prices made at the mill. Stock dealers believe that the low cost of stock should aid materially in reducing the cost of news and chip board in the future.

Philadelphia Paper Dealers Adopt 1000 Sheet Count

With the advent of February the Philadelphia paper dealers will follow the trade practice recommended by the American Conference Board composed of Writing Paper and Cover Paper Manufacturers, the National Paper Trade Association and the United Typothetae of America, and put into effect the 1,000 sheet count as the standardized basis to supplant the ream count and weight. The 1,000 sheet count basis will be unanimously effective here on February 1, the standardized method having been adopted at the meeting of the local association last week.

There have been held, from time to time, for the past few months, special meetings under the auspices of the Philadelphia Paper Trade Association for the discussion of the new method of basing the count of sheets for the fine paper dealers. These meetings were held separately and jointly with the coarse paper distributors so that the entire range of the trade views on the matter might be laid before the paper men for open forum discussion.

The final meeting of the fine paper dealers for the purpose of putting to vote the new trade custom was held last week and the ruling adopted. A notice has been sent to all the dealers by the Trade Relation Committee of the Philadelphia Association stating that the new method of counting will be effective on the first of the coming month. This method of computing paper under the 1,000 count basis, which has been in use in the Government Printing Office for some time is believed by many dealers to be a valuable aid towards the freer purchases of paper on the part of the consumers, and resulting in larger orders for the mills as well as the distributors in the future. It is believed to be the solution of the long and often disputed broken package problem, which in the past has occupied much thought and time of the Philadelphia Association and the Typothetae of this city. It will offset the loss occasioned by the broken package and so stimulate the purchases of the consumer, and reduce his risks.

The plan has been freely discussed by the local paper trade committee and the Philadelphia Typothetae Committee assigned to reach an agreement on the new standardized methods of paper count. After a series of such discussions held throughout the past year the plan finally was approved by the Typothetae Committee and the printing trades and it is expected that it will become generally in use throughout the entire Philadelphia district within a comparatively short time.

Paper Men to Exhibit in Ad Displays

Philadelphia paper distributors catering to the advertising and printing trades will, during the week, join in the exhibits that are to be featured at the Bellevue Stratford Hotel, beginning today and extending to Wednesday. The displays will be devoted to the work of the various large advertising concerns whose members are affiliated with the Poor Richard Club, and will be held in conjunction with the club's annual banquet. The assembly of the ad matter will be featured in the Clover Room for the three days, and has been arranged under the auspices of the Poor Richard Club of which Morton Gibbon-Neff, of the Dill and Collins Company, is president. Other paper men who are affiliated with the Poor Richard Club are A. Richard Hartung, of A. Hartung, Inc.; President Norbert Considine, of the Paper House of Pennsylvania, his brother and associate, Raymond J. Considine, and George W. Ward, of the D. L. Ward Company.

The displays represent several hundred thousand dollars of advertising matter with more than 100 boards that feature the work of Philadelphia ad agencies for national advertisers and include many original oil paintings. The paper exhibits will include national mill products.

Pusey and Jones Corp. Reorganized

Philadelphia patrons of the Pusey and Jones Corporation have been informed of the reorganization of that Wilmington, Del., concern in the past week. With the closing of the receivers sale of the assets of the large ship building and paper making machine corporation in the preceding week new interests took over the control of the corporation.

Last week, following the reorganization of the concern, it was announced that William Griscom Coxe, who has been general manager of the Pusey and Jones plant in this city for the past few years, will become president and general manager of the new corporation to be formed, and which will be known as the Pusey and Jones Corporation.

Clement C. Smith, of Milwaukee, Wis., who purchased the plant at the Receivers Sale in the preceding week, will be chairman of the Board of Directors. Other officials of the corporation are C. Stewart Lee, vice president; C. B. Lynch, treasurer, and J. H. Deinlein of Baltimore, secretary.

According to officials, the plant is in excellent condition and the work of making paper manufacturing machines and ship building will continue without interruption. Other plans will be announced on January 29 after the meeting of executives and officers has taken place to discuss the firm's future policies.

W. H. Hoskins Co. Receiver Sale

Large quantities of paper and stationery manufacturing and other supplies of the William H. Hoskins Company, one of the largest and oldest of Philadelphia stationery houses, long engaged in business at 904-906 Chestnut street, will be placed under hammer at the Receivers Sale to be held on January 24, 25 and 26. Included in the sale are the trade name, good will, trade customs and corporate rights and franchises of the Hoskins Company. The sale is held under order of the Receiver, Charles J. Paist, formerly vice president of the company, and the president of the newly organized C. R. Hoskins Company, which will succeed the bankrupt William H. Hoskins Company.

The new company will open its doors for business at the Chestnut street address shortly after the closing of the old accounts and its settlement of claims under the bankruptcy proceedings instituted last year against the older concern. The financial difficulties resulted from the purchase of a high priced property at 15th and Chestnut street about two years ago, when more than $600,000 was paid for the store recently used as a branch. The stocks have been removed from the store at 9th and Chestnut street to the auction rooms of the Freeman Company at 919 Walnut street, where the sale will be held.

Loss Through Fluctuation of Hudson

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., January 15, 1927.—Pulp and paper mills and other industrial concerns of the Hudson Valley frequently lost as high as $200,000 annually because of the fluctuating flow of the Hudson River and its tributaries, according to E. H. Sargent, chief engineer of the Hudson River Regulating District Board which will have charge of the construction of the proposed Sacandaga Reservoir at Conklingville. In a recent talk Mr. Sargent said that floods some seasons causes a loss of over $1,000,000 to municipalities along the river and later, because this excess water has been allowed to go to waste, pulp and paper mills are compelled to shut down or reduce operations because of lack of water.

He gave a detailed description of the Sacandaga Reservoir which he estimated will cost about $9,000,000. It will be created by a dam about 100 feet high across the Sacandaga Valley. The dam will impound 37,000,000,000 cubic feet of water creating a lake 35 miles long with a maximum width of five miles and a surface area of approximately 42 square miles.

He explained that as pulp and paper concerns and power companies will be the principal beneficiaries of the operation of the reservoir these concerns have been assessed for about 95 per cent of the cost. He expressed the opinion that power plants along the Upper Hudson a few years after the construction of the reservoir will have a capacity of over 500,000 horse power and which will generate approximately 1,600,000,000 kilowatt hours of energy per year at a much less cost than can be produced by steam.

Mr. Sargent's figures will give an idea of the hydro-electric power development expected following the completion of the reservoir. The amount of power now generated along the Upper Hudson, mostly by pulp and paper firms, is only a small fraction of the figures named by Mr. Sargent. Several concerns, notably the International Paper Company and Union Bag and Paper Corporation, have already mapped tentative plans for greater power development.

Changes in Western Board & Paper Co.

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., January 17, 1927.—The death during the past year of William H. Scott, vice president of the Western Board and Paper Company and chief engineer of the Kalamazoo Paper Company, resulted in a very considerable change in the official personnel of the former concern. Charles G. Bard was elected vice president to fill the vacancy, while C. Hubbard Kleinstuck was named on the board of directors.

Other Western Board officials and directors are: President, A. E. Curtenius; treasurer, Michael Redmond; secretary and manager, Winship A. Hodge. The addition of the name of F. M. Hodge completes the list of directors.

The annual election of the Kalamazoo Paper Company was without particular incident. Officers and directors were re-elected as follows: President, F. M. Hodge; vice president, Daniel Altland of Detroit; secretary-treasurer, A. E. Curtenius; directors, the three officers and C. S. Campbell, D. R. Curtenius, A. B. Connable, W. S. Dewing and C. H. Kleinstuck.

Crown-Willamette To Plant Sitka Spruce

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., January 14, 1927.—Following out its plan of reforestation in Clatsop county, Oregon, the Crown-Willamette paper company will plant 250,000 young Sitka spruce trees in the Young's river valley near Astoria. This will be the largest single planting since the company undertook its work in this line. J. H. Waler in charge of the planting work for the company, started Monday, January 10 on this new planting program for 1927.

Activities of Fox River Valley Paper Industry

Erection Engineers Installing Machinery at New Plant of Bates Valve Bag Co., Marinette—Executives of Consolidated Power and Paper Company Join Crown-Willamette Organization—Menasha Paper Mills to Begin Operating Next Week

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., January 15, 1927.—Wisconsin loses a well known paper mill executive with the retirement of R. C. Bay, general manager of the Lakeview Paper Company, Neenah, Wis., owned by Sears, Roebuck & Co. Mr. Bay and his family have gone to Lakeland, Florida, where they will reside on a fruit ranch developed by Mr. Bay during the last thirteen years. Mr. Bay's resignation came on the eve of a promotion which would make him assistant to the general manager of factories and properties of Sears, Roebuck & Co., with headquarters at Chicago. He had decided, however, to retire from the paper business. The official has been employed by the Chicago mail order concern for twenty-four years, the last four of which were spent in management of the Lakeview mill.

Tomahawk Organization Adopts Group Insurance Plan

The Tomahawk Kraft Paper Company, Tomahawk, Wis., is the latest Wisconsin concern to provide life and accident insurance for its employees under the group plan. Each employee will be covered by a life insurance policy of $1,000 and compensation of $12 a week in cases of injury. The initial premium was paid in full by the company as a Christmas gift, and the payments will be borne in part hereafter by the concern also. Physical examinations were not required and therefore virtually the entire force of 200 workmn was enrolled under the new plan.

Feldman Paper Box Co. Progresses

An encouraging condition in the paper box industry is shown in the progress made by the Feldman Paper Box Company of Madison, Wis. This company started operations in January, 1923, with a very small production. Now it has a plant with 32,000 square feet of floor space, about sixty employees, and has increased its equipment to 52 box making machines. The capacity volume of the plant is 25,000 boxes a day. A complete printing department has been added recently, so that almost the entire work may be done within the plant. The line of manufacture now includes pamphlet cases, library supplies, clock covers, etc. Sales activities have recently been extended from Wisconsin into northern Michigan. J. Feldman is president of the corporation.

New Marinette Plant to Begin Operating Shortly

All of the machinery necessary for the Bates Valve Bag Company's new plant at Marinette, Wis., has been shipped from Chicago, and erection engineers are at work installing it. Indications are, therefore, that operation will be started within a short time, according to R. W. S. Hoskin, president of the Hoskin-Morainville Paper Company, of which the bag company is a subsidiary. A new building was erected for the Bates company recently.

Menasha Paper Mills to Make Strawboard

Barring unexpected delays, the newly organized Menasha Paper Mills Company, Menasha, Wis., will start operating next week, and will manufacture strawboard. Only a small amount of remodeling is left, mainly in connection with the boilers. Enough straw has been purchased and delivered to keep the plant operating for some time.

Wisconsin Men for Crown-Willamette Co.

The Crown-Willamette Paper Company, a Pacific Coast concern, is to have two former executives of the Consolidated Water Power and Paper Company of Wisconsin Rapids, Wis., in its personnel. Its second acquisition is Frank N. Youngman, until recently manager of the Thunder Bay Paper Company, Canadian subsidiary at Port Arthur, Ont. Mr. Youngman has been made manager of a Crown-Willamette subsidiary, the Pacific Mills Company, Ltd. The executive offices are at Vancouver, B. C., and Mr. Youngman will be located there. Pulp, paper and logging operations of the Pacific company are carried on at Ocean Falls, B. C., where a model town of 3,000 people has been developed. Daily production is over 300 tons of news print, sulphite and sulphate papers. The first of the two former Consolidated executives to identify himself with the Crown-Willamette company was George P. Berkey, now its vice president. Mr. Berkey formerly was general manager of the Consolidated mill at Wisconsin Rapids, Wis.

A Large Log Purchase

One of the largest log purchases in northern Wisconsin in some time took place at Ladysmith, Wis., just a short time ago. The Great Western Paper Company signed a contract for 5,000,000 feet of hemlock logs, bought from the Fountain-Campbell Lumber Company. These will be shipped to the Great Western mills for pulpwood use.

Water Power Hearing Postponed

The Supreme Court hearing which will test the validity of the Wisconsin water power recapture law has been postponed until April 11, according to announcement made at Washington, D. C. Action was brought by the Fox River Paper Company, Appleton, Wis., to determine whether permission to rebuild a dam could be obtained from the Wisconsin Railroad Commission without submitting to the recapture law. This company and other owners of a wooden dam built in 1877 desire to replace it with a modern concrete structure. The railroad commission refused to consent unless the law could be invoked which would permit the state to purchase the dam after thirty years. Several other Wisconsin water power projects also will be affected by the United States Supreme Court's decision.

Lewis L. Alsted Honored

Lewis L. Alsted, president of the Combined Locks Paper Company, Appleton, Wis., has been elected a member of the board of directors of the First National Bank of Appleton to fill a vacancy caused by the death of Hiram G. Freeman, former treasurer and general manager of the Fox River Paper Company. This bank handles the principal paper mill accounts of the Fox River Valley. J. A. Kimberly, of the Kimberly-Clark Company, Neenah, Wis., has been re-elected chairman of officers of the First National Bank, Neenah, Wis.

Stream Purification Campaign

Wisconsin's campaign against industrial pollution of rivers and streams may take a turn which will not only bring further progress along this line but also prevent persecution of paper mills because of conditions which they cannot avoid. A law is to be introduced at the present state legislative session which will consolidate three agencies now empowered under the statutes to eliminate pollution.

These three are the State Health Department, the Fish and Game Department, and the Railroad Commission. The work of these three has been almost identical, with much duplication of effort and confusion of authority. The new commission would embody representatives of all three, and it is expected will substitute cooperation and enforcement for persecution and prosecution. A workable law is to be presented in place of the one now on the statute books, which if enformed, would cause river industries to close.

Quebec Considers Limitation of Paper Mills

Provincial Legislature Averse to Construction of Additional Plants, Fearing Over-Production of News Print—Announcement Regarded as Step in Direction of Placing Industry on Sounder Basis—Would Prevent Break of Market by Unstable Mills

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., January 17, 1927.— A definite step towards limiting the number of paper mills in the Province of Quebec, with a view to preventing an over production of news print, was announced in the speech from the throne, at the opening of the Quebec Legislature during the week. The reference to the matter was as follows:

"The success of the pulp and paper industry in Quebec has brought hither the establishment of great mills which make considerable demand on our forest resources. The Government intends to protect these mills by following up actively its policy of safeguarding the forest, replanting, wise exploitating of the new Quebec reserves and the inventory of our forests, an inventory now completed over an extent of eleven millions of acres. At the same time it thinks that before favoring the establishment of additional mills, it would be wise to see that there is an abundant forest reserve for the mills already in existence or the construction of which has been decided upon, except, however, in those new regions where such mills might become the source of unlooked-for activities."

Subsequently further reference to the matter was made by Premier Taschereau, who in the course of a speech on general matters remarked:

"For the past few years, Canada, and more particularly the province of Quebec, have become great producers of pulp and paper. In 1926, for the first time in the industry's history, our output exceeded that of the United States, and is growing larger from day to day. We assuredly do not want to stop such a movement, which is a source of great economic wealth for us.

"But is it not time to ask whether this extraordinary expansion should not have some limit, and whether in the best interests of our forests and their conservation, and the assurance of the prosperity of established industries, it would not be better to slow up a little and not lend too much encouragement to the establishment of new mills?

"It is true that in certain parts of the province where water powers are undeveloped and can only be used as accessories of the forest, considerable benefit is yet to be derived by the population, and restriction may not yet be necessary.

"But I think if our forests are to be judiciously put under lease for their better protection from fire, insects and wind damage, we have a duty to the existing great companies to assure them forestry resources to allow them to live.

"I would rather have in our province 25 prosperous mills than 50 just limping along, drugging the market by over-production and ever worrying about the morrow.

This announcement has proved most acceptable to existing pulp and paper companies, as it is regarded as a step in the direction of placing the industry on a sounder basis. If the policy is adhered to it will mean the end of small companies springing up and developing a nuisance value which would force their purchase at too high prices by the larger companies. At present the possibility of over-production is an ever-present danger, but it is regarded as a constructive step for the government to take a hand in preventing the breaking of the market for Canada's greatest individual manufacturer commodity by unstable mills.

International Paper Co.'s Operations

Some interesting particulars regarding the International Paper Company's operations in the Province of Quebec were given in the Legislature during the week by Premier Taschereau. He said he had been informed that the company had in the Province uncompleted works, or works in the course of construction to the value of $111,000,000. Regarding the Company's development on the St. Maurice river; wishing to construct a dam on the river, it offered to pay the Government the sinking fund and interest on the amount of money required for this gigantic enterprise. The Government refused, but authorized the company to construct the dam at its own cost, which will be around $4,000,000. The conditions are as follows:

"1—The company will do the work itself under control of the Government engineers;

"2—When the lock is completed it will become the exclusive property of the province without the expenditure of a cent;

"3—The company will pay the Government $35,000 a year for the use of our water."

Saguenay Power Distribution

More than half the right of way for the $4,000,000 transmission line from the power development at the head of the Saguenay to the city of Quebec has now been cleared, and it is expected that the Shawinigan Water and Power Company will be distributing power from the Duke-Price plant by October next. A portion of the power will be utilized in the operation of the $15,000,000 plant of the Anglo-Canadian Pulp and Paper mills now being erected at Limoilou, near Quebec. The Provincial Government intends to construct a road along the right of way connecting Quebec City with the head of the Saguenay river.

Proposed News Print Plant in Argentina

D. Forster, Canadian Trade Commissioner in Buenos Aires, has reported to the Trade and Commerce Department at Ottawa that a syndicate was formed a little more than a year ago, including the three largest newspapers in Buenos Aires, with the object of studying the suitability of any of the soft woods in the territory of Misiones, Argentina, for the manufacture of mechanical and chemical pulp for making news print and other papers. Technical experts were brought from Europe and it has now been concluded that the fibre of the "araucaria brasiliensis" (Misiones pine) is suitable. It is stated that there is every possibility of establishing this new industry in the country, although there are certain technical difficulties yet to be overcome. It is estimated that a capital of $2,450,000 will be required to establish the industry. The applicants for the concession do not intend to ask for special customs protection, but free customs despatch is to be requested in connection with the importation of the necessary machinery, etc.

B. C. Paper Co. to Pay Dividend

The British Columbia Pulp and Paper Company, Ltd., has announced a dividend of $8.75 a share on the company's 7 per cent cumulative preferred stock. This dividend is the initial one to be declared by the company and is for the fifteen months' period ending January 31, 1927, representing all accumulated dividends on the stock.

British Columbia Pulp and Paper Co., Ltd., took over the properties of the former Whalen Pulp and Paper Mills, Ltd., as at November 1, 1925, following a judicial sale of the assets of that company on October 30, 1925, and their purchase by the company's first mortgage bondholders. The company operates a 100-ton bleached sulphite pulp mill at Port Alice, B. C., and a 110-ton easy-bleaching sulphite pulp plant at Woodfibre, B. C., and ships the product of these mills to manufacturers of book, writing and other papers in the United States, Japanese, European and Australian markets.

Chicago Paper Trade Handicapped by Blizzard

Dealers Take Advantage of Lull to Speed Up Inventories and Formulate Plans for Future—Western Paper Merchants Association Holds Annual Meeting at Union League Club, and Elects Officers for Ensuing Term—Paper Quotations Fairly Well Established

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., January 15, 1927.—A snowstorm, that at times assumed the proportions of a raging blizard, had its effect on general business conditions in the city during the past week and Chicago paper dealers found time to put in much effort on inventories and in laying out plans for the coming year.

The most important event of the week was the annual meeting of the Western Paper Merchants Association held January 12 at the Union League club in this city. The association, a division of the National Paper Trade Association, enjoyed a noon luncheon, and remained in session long enough to elect officers and to discuss problems that at present confront western paper merchants.

Although no public announcement has been made concerning the business under discussion it has been admitted by some of those present that the thousand sheet basis of count and weight was the main topic under consideration. The 45 members at the meeting, which number included paper men from many western cities, had an opportunity to find out just what the sentiment was regarding the plan which has seemingly met with favorable reception in the East.

An executive of the organization is quoted as saying that "locally the new basis would go through without opposition in Chicago but that in other Western points some sort of a compromise might be necessary. It will be impossible to determine just what measures will be or can be taken until the members present get back home and discuss the matter there."

There were a number of guests and a few members from other associations present at the discussion, among them being Edgar A. Hall, Jr., president of the Chicago Paper Association, the organization of kraft and wrapping paper men in the city. It is known that the Chicago Paper Association intends to support the National Paper Trade Association in their adoption of the 1,000 sheet basis.

The newly elected officers of the Western Paper Merchants Association are as follows: President, G. S. Johnston, Western Paper Union of Omaha, Nebr.; first vice-president, George Custer, W. F. Nackie Paper Company of Milwaukee, Wis.; second vice-president, Harold Leahy, La Salle Paper Company of Chicago; secretary, James Knox, Chicago Paper Company, Chicago; treasurer, John F. White, James White Paper Company, Chicago. For national committee man on fine papers, Forrest Hopkins, Paper Mills Company, Chicago, was elected, and Noble Gillette, Chicago Paper Company, Chicago, alternate. For national committee man on coarse papers, Lou Marshall, Marshall Paper Company, Appleton, Wis., and S. J. Hodgins, Central Topeka Paper Company, Topeka, Kansas, alternate.

Other out of town guests aside from the officers elected included A. E. Shuladge, Beacon Paper Company, St. Louis; S. N. Tobey, Seaman Paper Company, St. Louis; C. R. Field, Hamilton & Smith, Omaha, Nebr.; H. J. Woelz, Woelz Brothers Paper Company, Appleton, Wis.; C. W. Dau, Carpenter Paper Company, Des Moines, Iowa; J. A. Carpenter, Kansas City Paper Company, Kansas City, Mo.; A. L. Oman, Paper Supply Company, Minneapolis, Minn.

No price changes have been noted in the general paper field, and this stabilization, which has continued for some time, is always the characterization used by paper dealers when they are asked any questions concerning market changes or general business conditions. There is a general belief that some of these prices might be well changed in a manner that would be fair to all parties concerned in as much as there have been some changing conditions since the quoted prices were arrived at some time ago. However, no one is willing to suggest such a change and the mills are continuing to get the same prices.

Contrary to other markets, where such a stable quality experienced for some length of time denotes stagnation, the paper market is lively and brisk and buying and selling continues. The chief reason for the stabilization seems to lie in the fact that dealers, jobbers, consumers, everyone, seem to be content to buy in small quantities. This method prevents any futuristic quotations and any speculations. It would seem that prices stayed where they were because everyone was afraid, under existing conditions, to "start something."

Coarse Paper Plans for 1927

One of the largest and most influential coarse paper houses in Chicago and the western district recently published its views regarding the coming year. An analysis of this kind reflects, in general, the views of other coarse paper houses in the city and of the Chicago Paper Association, the official organization of this class of paper men. A part of the message given out by the above mentioned company contains the following expression:

"We have a definite plan for 1927 that we think will lead us to success. It is well known that concerns in the wrapping paper business have never had a definite selling price policy. In 1927, we intend to establish prices that are fair and that will show a reasonable profit and we intend to stand firm on them regardless of what the other fellows do. Wholesale orders will be sold at a wholesale price and retail orders at retail prices, but never again will we sell a retail quantity at a wholesale price because, frankly, we cannot stand losses.

"Forty-seven per cent of the number of our 1926 transactions averaged $5.17 each, and they comprised only 7 per cent of our total sales. It can be easily seen that unless we get a retail mark-up on this kind of orders, we will have trouble staying in business.

"It is profits we are interested in, and we believe it is ordinarily good business. We are a fair price, one price house from now on. One Price—a fair price—no cutting quality to meet cut prices—full count—full weight—full size, that's our platform and we stand firmly on it. We believe every buyer of paper needs such a source of supply."

The platform adopted by this concern is worthy of considerable study on the part of any paper house in business today.

Coarse paper dealers experienced a lull in business during the past week following a very auspicious beginning on the new year the week previous. However, the general slump does not give cause for alarm inasmuch as, at this time of the year, natural depressions of short duration are to be expected.

Miscellaneous Trade Notes

F. H. Pim, a well known "old timer" in the paper field has left the Berkshire Hills Paper Company, Chicago, where he has been manager for some time, and is now associated in an executive capacity with the Messinger Paper Company, Chicago.

E. Z. Cornwall, formerly with the Butler Paper Corporation, and more recently with the Chicago Paper Company, is now manager of the fine paper department of the Pratt Pape Company, Des Moines, Iowa. Mr. Cornwall began his duties with that company shortly after the first of the year. The Pratt Paper

Company is one of three or four great paper houses in the Hawkeye State and, located in Des Moines, the capital of the state, it is strategically placed as far as proper distribution is concerned.

J. B. Jones, of the Western Newspaper Union, Omaha, visited the offices of the Champion Coated Paper Company early in the week. Mr. George S. Johnson, of the same company, newly elected head of the Western Paper Merchants Association, also visited that company's offices Wednesday.

Lyman Dwight, of Dwight Brothers Paper Company, Milwaukee, was in Chicago, the first part of the week, and called on a number of paper houses. Mr. Dwight and his brother are nephews of the president of the Dwight Paper Company of this city.

Mention has previously been made of the new lines added by a number of the Chicago paper houses. The Dwight Bros. Paper Company of Chicago has recently added a large list of new papers in its catalog and price list supplement. Twenty-two new items are listed, including two grades of coated book, one of book and cover paper, bond and ledger papers, plain transparent parchment, Vienna Moire Blotting paper, Kraft Gummed Paper, single Coated Car-Card and other grades. The company experienced a good year in 1926, but find that, like all other fine paper dealers, prices have remained very low, though stable. Increased business, with a greater possibility for profit, is expected in 1927.

Chicago paper dealers are interested in the coming meeting of the Chamber of Commerce of the U. S. A. The Northern Central Division of this organization will meet at the Congress Hotel, January 20 and 21. The passing of the Rivers and Harbors Bill which would mean a direct waterway to the Gulf for Chicago transportation will come in for much discussion and it is expected that decisions on this and other questions will affect costs of shipping, prices and market condition for paper dealers as well as for other business organizations.

Develops Paper Mill Department

The Nason Manufacturing Company, 71 Fulton street, New York, N. Y., a firm established in 1841, and whose founder, Joseph Nason was the pioneer steam engineer and inventor of steam specialties, has for some time been developing a pulp and paper mill department for its business, whereby it will be in a position intelligently to analyze the steam problems of the pulp and paper mills.

As part of its organization are two men well known in the pulp and paper industries, J. O. Woodsome, a recognized expert on paper manufacture, and the inventor of "Venturi" circulator and separator drier fittings, and Chas F. Black, the son of a life-long paper maker, and himself identified for many years with the production of paper and pulp mill machinery.

Associated with the Nason Manufacturing Company as consultants on pulp and paper mill requirements are E. K. Mansfield & Co.

The Nason Manufacturing Company, in addition to its extensive line of steam specialties which they manufacture is also the Eastern representative of the Penberthy Injector Company, of Detroit, Mich.

Wants Reclassification on Vegetable Parchment

WASHINGTON, D. C., January 4, 1927.—The Canadian Vegetable Parchment Company, Ltd., has applied to the Advisory Board on Tariff and Taxation for the reclassification of vegetable parchment paper in order to make it subject to the duties payable under the Tariff Item No. 199 instead of Item No. 197 as at present, according to word received here. If this change is allowed the duty on such imports from the United States would be 35 per cent ad valorem instead of 25 per cent. The Board has added this application to the cases already listed for hearing on January 18 and 20.

Trade Marks Department

CONDUCTED BY NATIONAL TRADE-MARK CO., WASHINGTON, D. C.

The following are trade mark applications pertinent to the paper field pending in the United States Patent Office, which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade Mark Company, Barrister Bldg., Washington, D. C., trade-mark specialists. As an additional service feature to its readers, PAPER TRADE JOURNAL gladly offers to them an advance search free of charge on any mark they may contemplate adopting or registering.

TRUE VALUES ONLY—No. 219,369. Frank B. Betts, Jr., Columbus, Ohio. For various forms used for listing, classifying, and valuating property.

ALADDIN BOND—No. 230,302. Myer Magil, Philadelphia, Pa. For bond paper.

HUMMEL'S SCORITE—No. 237,505. Frank J. Hummel, Pittsburgh, Pa. For tally sheets and tally pads.

DU RUS—No. 222,356. F. S. Webster Company, Boston, Mass. For carbon paper.

PONGEE—No. 234,237. The Tissue Company, Saugerties, N. Y. For crepe paper for decorative purposes.

SILK—No. 164,040. Jackson C. E. Glass, Oakland, Cal. For toilet paper.

KRAFTALL—No. 239,356. The Cooke & Cobb Company, Brooklyn, N. Y. For files for correspondence and papers.

SANIGUARD—No. 239,489. Sanitary Utilities Corporation, St. Louis, Mo. For sanitary paper cover for toilet seats.

DEFENDER—No. 236,538. Columbia Bag and Paper Corporation, Long Island City, N. Y. For paper bags.

UNION CAMEL—No. 236,573. Union Bag and Paper Corporation, New York City. For paper bags.

FAVORITE—No. 237,066. The Cooke & Cobb Company, Brooklyn, N. Y. For vertical cabinet folders, althabetical-index inserts, and hand-operated perforators for paper.

ANTISEPTIC FINEST BATHROOM TISSUE with fanciful picture—No. 238,197. United Paper Corporation, Menasha, Wis. For toilet tissue.

USEMORE—No. 238,746. Service Grocer Co., Inc., Detroit, Mich. For paper napkins and toilet paper.

BOULEVARD—No. 239,184. Marquette Paper Company, Chicago. For bond paper, index paper, ledger paper, and book paper.

D. S. K.. No. 201,564. Keystone Roofing Manufacturing Company, York, Pa. For waterproof paper used in packaging and shipping.

REPRESENTATION OF A CIRCLE WITH WINGS ON EACH SIDE THEREOF. No. 227,609. Transo Envelope Company, Chicago, Ill. For mailing envelopes.

GOLDEN WEST. No. 235.009. Western Grocer Company, Marshaltown, Iowa. For toilet paper.

TARZAN TAG. No. 238,813. Riverside Fibre and Paper Company, Appleton, Wis. For manila tag board.

RANGER BOND. No. 239,477. Hooper Paper Company, Taylorville, Ill. For printing paper.

JEMCO No. 239,523. Jordan Marsh Co., Boston, Mass. For toilet tissue.

MOGUL No. 239,997. National Blank Book Company, Holyoke, Mass. For loose-leaf structures, as ring books, post binders and ledgers.

LITTLE RIDGE DECKLEDGE No. 217,387. B. D. Rising Paper Company, Housatonic, Mass. For writing papers, announcement papers, pasted Bristols and cover papers.

PAR-FOLD No. 240,168. The Central Ohio Paper Company, Columbus, Ohio. For enameled book paper and bond writing papers.

WHITE CARRIER No. 240,169. The Central Ohio Paper Company, Columbus, Ohio. For enamel book papers, bond writing papers, and envelopes.

THE CHAMPION OF ORGANIZATION, EQUIPMENT SERVICE, FOUNDATION OF QUALITY—These expressions are accompanied with the picture of a knight on a horse—No. 222,823. The Champion Coated Paper Company, Hamilton, Ohio. For printing paper.

Demand for Paper in Toronto is Improving

Business Gradually Beginning to Revive After Holiday Slackness, and Salesmen Are Resuming Their Activities—Work on Construction of New 200 Ton News Print Mill at Cochrane, of the Abitibi Power & Paper Co., Ltd., to Commence in Near Future

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, January 10, 1927.—The paper business is off to a fair start for the coming year. Jobbers have completed their inventories and are holding their annual meetings. The reports to be presented will be better than expected, and prospects for 1927 look bright. Salesmen are again out on the road and consumers are placing, sorting, and, in some instances, stocking up orders. A general review of conditions as applicable to the paper line and other activities, is furnished by John M. Taylor, of Guelph, Ont., president of the Canadian Manufacturers' Association, who says that the Produced-in-Canada campaign, which has been gathering strength during the past few years, is contributing to better business conditions. Mr. Taylor says that Canadians are realizing that money spent in their own country for their needs returns to them again. Although much has been accomplished, Mr. Taylor remarks that Canadians are still a considerable distance from the desired goal, as an examination of the statistics showing imports into the Dominion for the last twelve months ending October, 1926, will prove Canada imported during that period $13,105,216 worth of books and printed matter, although much of this could have been produced by Canadian printers and their employees, with benefit not only to them but also to the suppliers of paper, ink and other materials.

Butter Dishes Sale in Canada

Joint selling conditions have been made by the large manufacturers of wooden butter dishes in the United States. The two concerns making these goods and doing business in Canada are the Oval Dish Corporation, of Tupper Lake, N. Y., and the Steele Wallace Corporation, of Rockwood, Va. E. H. Wilkinson & Co., Toronto, have been appointed Canadian agents for these concerns and an effort will be made to extend their trade in the Dominion. Various firms will continue to stock and distribute the line of wooden butter dishes, which are used extensively by butchers and grocers, and fill a much needed want for the sanitary handling of food products.

T. A. Weldon Receives Congratulations

The many friends of T. A. Weldon, vice president of the Provincial Paper Mills, Toronto, are congratulating him on attaining his seventy-third birthday, which was observed on New Year's day. He is enjoying excellent health, and has been in the paper game for over forty years. He is a brother of I. H. Weldon, former president of the Canadian Pulp and Paper Association, and for many years manager of the Toronto branch of the E. B. Eddy Company.

Death of J. J. Moriarty

J. J. Moriarity, who was superintendent of the coated paper mill, of Ritchie and Ramsay, New Toronto, passed away lately at his home in Toronto from heart disease. For over a quarter of a century he had been in the service of the company, coming from Montreal. He was a native of Springfield, Mass., and was a faithful and efficient official, whose demise is deeply regretted. Mr. Moriarity was fifty-eight years old and leaves a wife and three children. The remains were taken to Montreal for interment.

New Manager Appointed

John F. Taylor, sales manager of the E. B. Eddy Company, Hull, Quebec, was in Toronto lately, and announced a change in the management of the local branch, A. H. Pafford, who has been in charge for several years, has resigned and has been succeeded by George B. McPherson, son of the Hon. W. D. McPherson, former Provincial Secretary for Ontario. George McPherson, for the past five years, has been with the Kemberly-Clark Company in Chicago, and is well known in paper and business circles. He is being warmly welcomed back to Toronto by many friends in the trade.

Will Turn Out Toilet Papers

The Western Quebec Paper Mills, of St. Andrews East, Quebec, which are represented in Toronto by Paper Sales, Limited, who turn out tissue, onion skin, decorative crepe and light weight specialties, intend manufacturing toilet paper. Although not yet in the production of this line, the company have made a sample run and it is expected that within a short time the output of toilet papers on a moderate scale will be in progress.

Notes and Jottings of the Industry

H. B. Donovan, sales manager of the Canada Paper Company, Toronto and Montreal, who recently underwent an operation in the Toronto General Hospital, is making fair progress toward recovery, but it will be some time yet before he is able to resume his duties.

N. E. Wainwright, of the sales staff of the Provincial Paper Mills, Toronto, has returned from a business trip to Winnipeg and Chicago.

Bruce Brown, of T. B. Little & Co., wholesale paper merchants, Montreal, was in Toronto lately calling upon the trade.

H. E. Livingstone, Charles V. Syrett, and H. A. Goldsbrough, of Toronto, were in Montreal recently attending a meeting of the kraft service bureau and the wrapping paper mills, along with delegates from the Toronto and Montreal coarse paper committee.

Albert Lamonte, foreman in the slasher mill of the Spanish River Pulp and Paper Mills, Espanola, Ont., and his wife, were killed at a level crossing in Espanola by a freight train. The couple were driving in a cutter in a dense fog and did not see the train until too late.

Work has been completed on the new, three story, concrete storage warehouse and the extension to the digester building at Kapuskasing, Ont., by the Spruce Falls Power and Paper Company. Work will shortly start on the new hydro-electric power house of the company at Smoky Falls and later on the big news print mill at Kapuskasing.

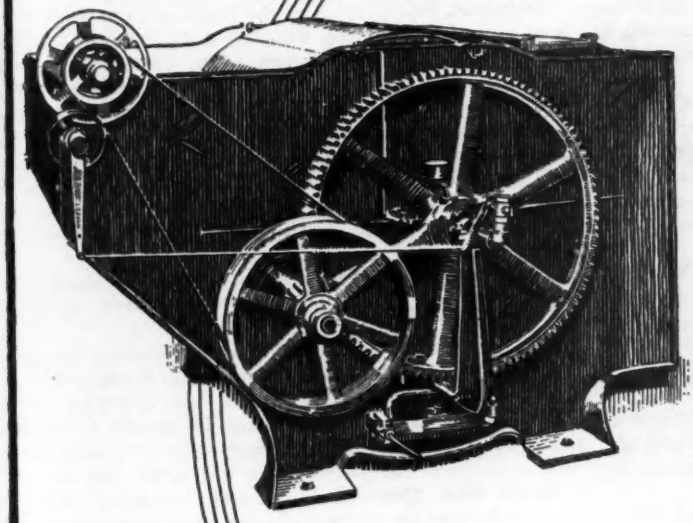
T. Lindsay Crossley, president of the Industrial Laboratories, Toronto, is giving a course of five lectures in the Mining Building of Toronto University in which modern practices in Canada in the pulp and paper industry will be described. The course has been specially arranged for the benefit of undergraduates in chemical engineering and forestry.

With the following of an order for cutters of pulp wood for Victor Lines, at mileage 157 on the Algoma Central railway, by the Sault Ste Marie branch of the Employment Service, it is reported that all brush camps in Northwestern Ontario are again working to capacity and activities are progressing favorably.

It is expected that work will start in the course of a few weeks on the construction of the new two hundred ton news print mill at Cochrane by the Abitibi Power and Paper Company, Limited, Iroquois Falls, Ont.

There has been sent out by theHoward Smith Paper Mills, Toronto, a broadside printed in four colors on their Velvalur, which is especially adapted for color printing and half tone work. The chief illustration shows a basket of tempting British Columbia apples, so real in appearance that the onlooker is tempted to take some of the fruit from the receptacle.

Are your white water losses down to a minimum?



Unless your mill has a one hundred per cent closed system—and few mills have—it will pay you to check up every white water outlet. Many have discovered that an additional Bird Save-All to provide adequate recovery capacity or to take care of the white water at some unguarded point is an investment that produces large returns.

The Bird Save-All is so inexpensive to install, operate and maintain that it quickly pays for itself.

Write for Bulletin.

Bird Machine Company
South Walpole Massachusetts

BIRD MACHINERY

The BIRD SAVE-ALL

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CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Richmond, Va.—The Wortendyke Manufacturing Company, foot of Thirteenth street, manufacturer of paper goods, has concluded negotiations for the purchase of the plant and business of the Peters Company, 33 Thirty-fifth street, Brooklyn, N. Y., manufacturer of gummed paper products, etc., and will take over the property at once. The new owner proposes to remove the machinery to the Richmond plant, where an adjoining building is available, and will concentrate production at this location. Expansion in output is planned.

Aberdeen, Wash.—The Crown-Williamette Paper Company, 248 Battery street, San Francisco, Cal., is considering the construction of a new sulphite pulp mill on local site, and has negotiations under way with city officials relative to necessary water supply. It is said that the initial plant unit will cost in excess of $1,000,000, and that the ultimate mill will represent an investment of more than five times this sum.

Detroit, Mich.—The Tullar Envelope Company, 2766 West Fort street, is reported to be planning extensions in its plant for increased production. The plant is now giving employment to about 60 persons and expects to increase this quota in the near future.

Peshtigo, Wis.—The Peshtigo Paper Company has engaged Douglas & Cryster, Wisconsin National Bank Building, Milwaukee, engineers, to make a survey of power conditions for its mill service. It is understood that the company proposes to increase the facilities for this purpose.

De Pere, Wis.—Interests at Sheboygan and Neenah, Wis., now engaged in the paper industry, names temporarily withheld, are said to have negotiations under way for the purchase of the local mill of the American Writing Paper Company. A new company will be organized, it is stated, to take over and operate the plant.

Long Island City, N. Y.—The Shelton Manufacturing Company, Inc., 450 East Fourth street, New York, manufacturer of corrugated paper products, has leased two floors in the factory at Orchard street and Jackson avenue, Long Island City. The space approximates 45,000 sq. ft. of floor area, and will be used for a new plant.

Detroit, Mich.—The Cardboard Cutting and Supply Company, 1600 East Euclid avenue, has plans for expansion in its plant, to include the establishment of an addition for general storage and distributiing service, as well as the installation of additional equipment for increased production. It is purposed to increase operations about 25 to 30 per cent.

San Francisco, Cal.—The Zellerbach Paper Company, 534 Battery street, San Francisco, is performing arrangements for the immediate erection of its proposed new four-story storage and distributing plant at Pacific and Front streets, estimated to cost about $250,000, for which a general contract has recently been awarded to Barrett & Hilp, 918 Harrison street. It is proposed to have the structure ready for service in the spring. Ellison & Russell, Pacific Building, are engineers.

Norwood, Mass.—Bird & Son, Inc., East Walpole, Mass., manufacturer of paper roofing, etc., will soon begin the erection of its proposed new local building, for which a general contract recently was let to the Rowley Construction Company, Boston. Sub-bids have been awarded for roofing, sheet metal work, painting, etc. The structure will be used largely for storage and distributing service, and is estimated to cost in excess of $25,000.

Bridgeport, Pa.—Officials of the Diamond State Fibre Company have organized a new subsidiary under Delaware laws with capital of $2,000,000, to be known as the Celeron Company. It will engage in the manufacture and distribution of fibre insulating products for electrical and other service. Headquarters will be maintained at the local plant of the parent company. J. H. Taylor is president of the new organization and J. A. Ranck, secretary and treasurer. Fire, January 7, destroyed a portion of the rag division and boiler plant at the Diomand State works, with loss reported at $20,000, including equipment. It is planned to rebuild.

New York, N. Y.—The Peerless Paper Box Company has renewed its lease of space at 119-21 Wooster street, and is said to be planning expansion in operations.

Carthage, N. Y.—In connection with a proposed merger of the West End Paper Company, Carthage; the Oswegatchie Paper Company, Gouveneur; and the Diana Paper Company, Harrisville, plans are said to be under way for general expansion in present outputs of the different mills. A security issue will be sold, a portion of the proceeds to be utilized for such purpose.

Grand Mere, Que.—The Laureutide Company, Ltd., has plans under way for proposed extensions and improvements in its local mill, with the installation of considerable additional equipment for increased capacity. The entire project is reported to cost in excess of $1,500,000, with machinery. E. B. Wardle is company engineer, in charge.

Cap Rouge, Que.—The St. Regis Paper Company, of Canada, Ltd., is having plans completed for the construction of its proposed new news print mill at Cap Rouge, near Quebec, designed for an initial optput of about 250 tons per day, to be increased later to a capacity of about 500 tons per day. The work will be placed in progress at an early date and will be continued through the winter. The entire project is estimated to cost close to $12,000,000, with machinery.

West Carrollton, Ohio—The Oxford Miami Paper Company has plans for immediate enlargements in its local mill, to include the installation of additional equipment for increased output in the line of high-grade book and writing papers. The company has arranged for a bond issue of $1,500,000, a portion of the proceeds to be used for the expansion program. The company was formerly known as the Miami Paper Company, being recently acquired by the Oxford Paper Company, with mills at Rumford, Me. Hugh J. Chisholm is president.

Tumwater, Wash.—In connection with its proposed new plant, for which superstructure will soon begin, the Tumwater Paper Mills Company is placing contracts for considerable equipment for installation, including three beaters to the Dilts Machine Works, Fulton, N. Y.; jordan, to E. D. Jones & Sons Company.

Announcement To The Paper Mills

ROSS ENGINEERING of CANADA, LIMITED

NEW BIRKS BLDG., MONTREAL, P. Q.

and

J. O. ROSS ENGINEERING CORPORATION

30 East 42nd Street
NEW YORK

549 W. Washington Blvd.
CHICAGO

HAVE TAKEN THE EXCLUSIVE SUB-LICENSE FROM THE AMERICAN VOITH CONTACT CO., TO MANUFACTURE, SELL AND INSTALL—

IN CANADA, NEWFOUNDLAND AND THE UNITED STATES

The Grewin System

A HIGH PRESSURE VAPOR REMOVAL SYSTEM FOR PAPER MACHINES

For Information, Estimates and Data—Apply to Nearest Office

ROSS SYSTEMS
HEATING—VENTILATING—DRYING

Pittsfield, Mass.; motors, to the Allis-Chalmers Company, Seattle, Wash. It is understood that the company is planning for the early purchase of a 10-ton electric traveling crane and other miscellaneous equipment. The initial unit will cost approximately $600,000, with machinery. L. A. De Guere, Wisconsin Rapids, Wis., is engineer. Theodore Osmund is general manager.

Pomona, Cal.—The California Fruit Wrapping Mills, Inc., manufacturer of paper specialties, tissue, etc., is considering preliminary plans for the construction of a new unit at its local mill, and the proposition will be passed upon definitely at a meeting of the board of directors to be held next month. It is reported to cost in excess of $65,000, including equipment. The present mill of the company began operations about a year ago. F. O. Fernstrom is president.

Anacortes, Wash.—The Fidalgo Pulp Manufacturing Company will soon begin superstructure for a new one-story addition at its local mill, for which a general contract was recently awarded to L. A. Farmer, Anacortes. The new mill is estimated to cost close to $75,000, with equipment, and is scheduled for completion early in June.

Harrisburg, Pa.—The Harrisburg Paper Box Corporation, recently organized with a capital of $50,000, is said to be arranging the early operation of a local plant for the manufacture of paper boxes and containers. The company is headed by Carl D. Simpson, Paul Doutrich and W. J. McClintock, Jr., all of Harrisburg; the last noted will be treasurer.

Suffolk, Va.—Plans are being arranged by the Planters Nut and Chocolate Company, 212 Johnson avenue, for the construction of a new addition at Johnson avenue and Callodon street, to be used exclusively for the manufacture of paper boxes and containers for company service. It will be six-story, 100 x 200 feet, with equipment to provide for an initial output of close to 35,000 paper boxes per day. It is estimated to cost approximately $500,000, with machinery. Ground will be broken at an early date.

Seattle, Wash.—The Independent Paper Stock Company, 1963 First avenue, South, is considering plans for the early rebuilding of the portion of its storage and distributing plant, recently destroyed by fire with loss approximating $25,000, including equipment.

Harrisburg, Pa.—Myers Manufacturing Company, Third and Calder streets, manufacturer of paper novelties, etc., has completed plans for the construction of a new addition to its plant at location noted. It will be three-story and basement, brick and concrete, reported to cost close to $50,000, including machinery. A. W. Myers heads the company.

Olympia, Wash.—Earle McCroskey, president of the Olympia Chamber of Commerce, is at the head of a project to construct and operate a local mill for the manufacture of paper of cheaper grades, including a reclaiming plant for the utilization of waste paper stock. Negotiations are said to be under way for the purchase of a site on the tide lands. The initial plant unit is reported to cost close to $35,000. Martin Gottfeld and Carlton S. Sears, Olympia, are also interested in the project.

Niagara Falls, N. Y.—The International Paper Company, Thirteenth street and Buffalo avenue, has completed plans for the construction of a new addition to its local mill, location noted, to be one-story, 72 x 230 feet, reported to cost about $75,000. It will be used as a machine room. Headquarters of the company are at 100 East Forty-second street, New York.

New Companies

New York, N. Y.—The Robert A. Cools Company has been incorporated with a capital of $25,000, to manufacture and deal in paper specialties. The incorporators are J. R. Lyon, R. A. Cools and A. N. Lipfert. The company is represented by Kadel & Van Kirk, 2804 Third avenue, New York.

Los Angeles, Cal.—The Pan American Stationery Company has been incorporated with capital of $10,000, to manufacture and deal in paper products. The incorporators are H. C. and W. A. O'Hara and F. I. Davis, both of Los Angeles. The company is represented by M. Maxwell Burke, 1004 Citizens National Bank Building, Los Angeles.

New York, N. Y.—Federbush Brothers has been incorporated with capital of $150,000, to manufacture and deal in paper specialties, loose-leaf paper products. The incorporators are C. J. D. and M. W. Federbush. The company is represented by W. H. Mansfield, 41 Park Row, New York.

Philadelphia, Pa.—The Stanley Paper Stock Company has been incorporated with capital of $25,000, to manufacture and deal in paper products. Alexander Frank, 5328 Morse street, Philadelphia, is treasurer and representative.

De Pere, Wis.—The Nicolet Paper Company has been incorporated to manufacture and deal in paper products. The company is headed by A. W. Ryall, N. Scheulke and F. Anderson, all of DePere.

Wilmington, Del.—The Neff Safety Paper Company, a Delaware corporation, has filed notice of change of name to Neff & Smith, Inc.

Newcastle, Pa.—The Newcastle Paper Products Corporation, has filed notice of increase of capital from $103,000 to $206,000 for general expansion.

New England Paper Merchants Confer

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., January 20, 1927.—January 11 to 18 inclusive was an active period for the New England Paper Merchants Association. With a total attendance of 41, and with 24 firms represented, the regular meeting of the New England Paper Merchants Association was held at the Harvard Club of Boston, Thursday, January 13. The speaker was N. A. Schoenbucher, who discussed the work of the National Paper Trade Association. The out-of-town firms represented were the C. M. Rice Paper Company, Portland, Me.; the Rourke-Eno Paper Company, Hartford, Conn.; the Providence Paper Company, Providence, R. I.; the Estate of F. J. Flemings, Lowell, Mass.; the C. A. Esty Paper Co., Worcester, Mass., and Perkins & Butler, Inc., Worcester, Mass.

The luncheon meeting of the Fine Paper Division was held Wednesday, January 12, in Room D of the Boston Chamber of Commerce, to clear up misunderstandings incident to getting out new price books based on the 1,000-sheet plan.

Members of the Wrapping Paper Division gathered at a luncheon meeting Tuesday, January 18. The meeting was conducted by M. O. Byrne, of Whitney Bros., Inc., Boston.

N. A. Schoenbucher, of the New York office of the National Paper Trade Association, was in Boston nearly all of last week, calling on members of that organization. Mr. Schoenbucher and Secretary F. H. Blackman went to Portland, Me., Wednesday, January 12, to call at the offices of the C. M. Rice Paper Company and the C. H. Robinson Company, members of the association.

Harry T. Ratliff Heads Traffic Council

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, January 10, 1927.—Harry T. Ratliff, traffic manager of the Champion Coated Paper Company, Hamilton, was elected chairman of the Traffic Council of the Chamber of Commerce this week at the regular meeting held in Hamilton. It was the fifth time Mr. Ratliff was honored with the chairmanship of the organization.

Other officers chosen were: H. A. Ross, Sr., vice-chairman; treasurer, Frank J. Becker, who is secretary-treasurer of the Beckett Paper Company; and secretary, Don Mitchell.

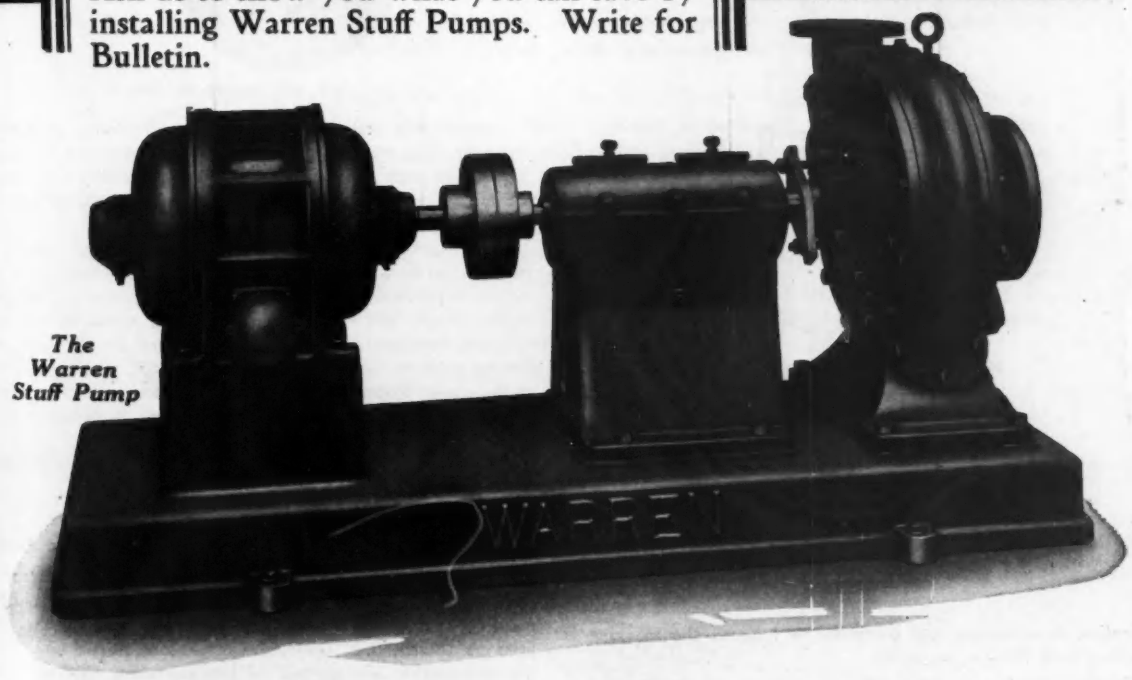
The officers will serve as members of the executive committee with W. A. Kohler and Harold R. Black, who are traffic managers of large Hamilton manufacturing concerns.

Compare It With Any Other Stuff Pump

The Warren Stuff Pump is designed by engineers familiar with pulp and paper mill pumping needs and built by an organization that has devoted itself exclusively to the building of fine pumps for twenty-nine years.

It handles pulped stocks up to 5 per cent and higher consistency with remarkable efficiency. Renewable case liners, perfect proportioning of passages and extra heavy construction throughout assure smooth, dependable operation throughout years of service.

Ask us to show you what you can save by installing Warren Stuff Pumps. Write for Bulletin.



The Warren Stuff Pump

Warren

Steam Pump Company, Inc., Warren, Mass.

Boston Philadelphia Chicago New York San Francisco St. Paul
Atlanta Scranton Toronto Pittsburgh

531

New Devices for the Paper Industry

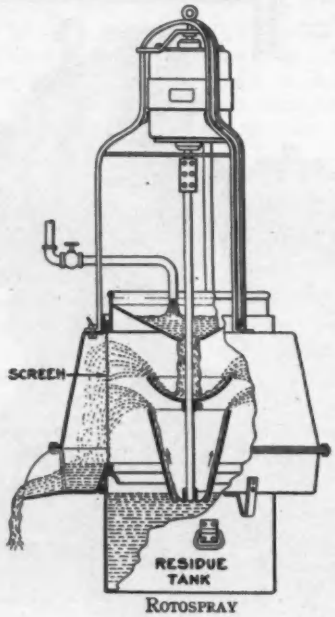
The Rotospray

The Rotospray is a machine designed for the sifting of clay in solution, coating, and colors; in fact, fluids of any description through any desired mesh screen.

The Rotospray is neither a vibrator or Cyrator and is operated on an entirely new principle, whereby all foreign material is separated from the fluid to be sifted. While in operation the Rotospray can take care of a continuous stream through opening in funnel and then comes in contact with revolving distributing plate or spray-head, situated below funnel on inside of machine.

The fluid coming in contact with the rapidly revolving Spray-head is instantly converted into a fine spray and projected through a vertical cylinderical screen. At this operation approximately fifty per cent of the fluid immediately passes through the screen and the remaining 50 per cent together with the coarse material (rejected by the screen) runs down on the inside of the screen. into the residue tank attached below. This serves to keep the screen clean and preventing clogging as long as the machine is in operation.

Now in the residue tank, the foreign matter settled to the bottom, while the still screenable good fluid is again pumped up by a revolving cone (serving as a centrifugal pump and spray-head combined) and is sprayed through screen. This combined



ROTOSPRAY

operation is automatic and continues as long as the machine is supplied with fluid to be sifted.

The fluid after passing through screen (now sifted) flows in an annular canal and leaves the spout in the same continuous flow as the machine is being fed.

The residue tank should be emptied after 2,000 or 3,000 gallons have been sifted, depending however on the percentage of foreign material rejected by the screen. The tank is usually emptied after every run. Due to the continuous service of the Rotospray it is not necessary to shut down machine to clean the screen and if the supply of fluid is steady the machine needs no watching.

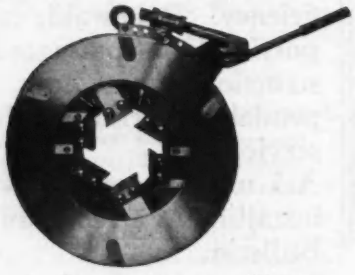
To clean the Rotospray when through, (to prevent material drying on the screen) put in a few gallons of water while the machine is in operation and it cleans itself automatically. To thoroughly clean, the funnel can be raised and a hose can be employed.

The screen of the Rotospray not having to support the weight of any material and not subjected to the rubbing action that takes place in a vibrator or gyrator, will last from four to five times as long. One of our customers used one screen in continuous service for five months before replacement was necessary.

The Rotospray is now in operation in many mills; principally, Kimberly Clark Company, Mead Pulp and Paper Company, Champion Coated Paper Company, Provincial Paper Company, Martine Cantine Company, and the Western Shade Cloth Company.

Cox "Clean Cutter Die"

The Cox & Sons Company, Bridgeton, N. J., has produced a new Tangential Pipe Threading Die which is intended for very accurate work.


DIE FOR ACCURATE WORK

Actual shop tests have proven its precision, durability and economy. Its working parts are fully enclosed and it can be adjusted for each pipe size without the possibility of slipping or variations in thread diameter. A micrometer adjustment feature compensates for plus or minus standard pipe sizes.

The chaser clamping edge is in its length longitudinally tapering, has serrated clamping surface the entire length, and is held rigidly in position on chaser holding block by a heavily constructed toggled clamp and screws; thus providing a marvelously efficient non-slip feature. All chasers are adjusted to the same relative cutting position by the use of a fixed gauge, temporarily attached to the chaser block. Chaser adjustments are made from the front, without dismantling die. Cutting lubricant is delivered in front of chaser cutting edge.

By using standard attachment for threading bent pipe, the Cox clean cutter die can be used.

Patent Granted Goodrich Co. on V-Type Belt

One of the noteworthy developments in mechanical drives of recent years has been the endless belt of the side-driving type, made of vulcanized rubber and fabric. A patent has recently been granted the B. F. Goodrich Company of Akron, Ohio covering the construction and method of manufacturing this type of belt.

Having its beginning in automobile fan drives, the application of such belts has been rapidly extended to include various domestic and industrial purposes such as washing and refrigerating machines, loom drives and others too numerous to mention.

While engineers have long recognized an inherent superiority in the wedging grip of a V-drive over the flat belt type, it was not so easy to devise a durable belt for this service which could be sold at a reasonable price. Apparently the problem has now been definitely solved.

Progress in rubberized fabric side-driving belts has been marked by several distinct steps, the first of which was taken by The B. F. Goodrich Company when in 1912 they brought out an endless,

Announcing Nortex

A New Converter Paper for the Manufacturer of High Grade Envelopes—In White and Colors

NORTEX has just the qualities you require to extend your line to the field of better grade business envelopes.

Tough and strong as the finest kraft, NORTEX also has exceptional folding qualities because it is made entirely of long fibre pulp. It is almost pure white, and its firm, smooth finish will take print or lithograph in all colors. NORTEX can be furnished in a variety of colors.

You will find it worth your while to learn how NORTEX can increase your business in the envelope field impossible to reach with the usual run of envelope papers. On request a NORTEX representative will call at your convenience.

The NORTHWEST Paper Co.

Cloquet Minnesota

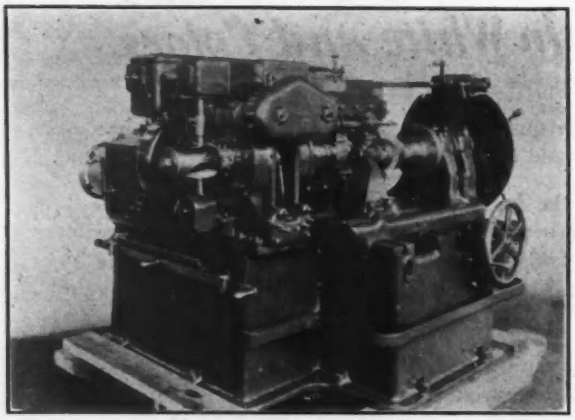
vulcanized V-belt of all cord and rubber construction, later marketed under the name "Silvertown." This belt had an inextensible cable core and a cover of spirally wound cord strands. It gave excellent service but was somewhat expensive to make. Goodrich also patented in 1918 a flat belt with a continuous-wound cord center and a bias-fabric cover.

In 1921 The B. F. Goodrich Company brought out a rolled, vulcanized fabric belt with a reinforcing cord core, now being sold under "Farranoid" and "Longlife" brands.

Patent No. 1,610,942 was issued to the Goodrich Company December 14, 1926, on an application filed in 1921, covering the construction and method of making these rolled belts, both in the round and V sections, either with or without a reinforcing core. It is reported that Durkee-Atwood has a license from Goodrich and these types of belts are being marketed by both companies.

Improved Gear Machine

The Farrel Foundry and Machine Company, 344 Vulcan street, Buffalo, N. Y., announce that they have made important improvements in the design of their gear generators, which it is offering to producers of gears in quantities. These machines have been described from time to time in our journal, and most of our



IMPROVED GEAR GENERATOR

readers will, therefore, be familiar with the general principles of the machines and the gears which they produce.

The accompanying illustration represents the latest design of machine which is made in three sizes to cut up to 24, 36 and 48 inches.

The Farrel Foundry and Machine Company has taken extreme care while designing these machines to embody the most modern machine tool features in the hope that they will be up to date for a number of years, and for a long period produce more accurate gears more rapidly than other gear machines.

The Farrel Foundry and Machine Company has the advantage that while developing gear generators it has produced and is constantly producing a large volume of gears of all sizes, and is therefore familiar with every kind of production difficulty which arises, and can make improvements in the mechanism of the machines that its experience indicates are necessary. The benefit of this experience, and also other valuable technical data for operating the machine and designing the gears is given to each purchaser of a gear machine.

The company furnishes, besides, a complete range of arbors, face plates, driving dogs, and cutter tail brackets, centers for shafts, chucks, etc., gear tooth comparator together with guage blocks of extreme accuracy, graduated squares for guaging the apex of the teeth, and an extraordinary number of change gears. In addition straight guides for the cutters are supplied so that they can be exchanged for the helical guides when it is required to produce straight tooth gears.

The machine is exceptionally adaptable. It will cut straight tooth gears, helical gears, staggered tooth double helical gears, and continuous tooth Sykes gears.

The Farrel Foundry and Machine Company also announces a new gear book, which contains illustrations showing nearly every kind of gear drive which it manufactures and a complete series of dimension sheets and horepower capacity sheets for each of its standard sizes. In addition there is valuable technical data on the calculation of gears.

Spiral Lock-Seam Pipe Catalogue

The new Naylor Spiral Lock-Seam Pipe Catalog is a profusely illustrated and practical informative book, which will be useful to those who have need for light weight pipe with a smooth inside to be used for conveying materials, liquid solutions, etc., and who want to know more about the how and why of pipe economy.

The information given will be of use also to engineers who have to advise in the selection of proper pipe to do certain work and to engineers and draftsmen who design machinery with which conveyance pipe is used. The new catalogue may be obtained from the Naylor Spiral Pipe Co., 1230 E. 92nd street, Chicago.

A. D. Little, Inc., Celebrate 40th Anniversary

Arthur D. Little, Inc., celebrated its fortieth anniversary at a banquet in its laboratories on December 30, which was attended by one hundred or more present and former members of its staff.

Dr. James F. Norris, president of the American Chemical Society, presented the congratulations of the chemical profession, and greetings were read from former associates, many of whom are now prominent in chemical and engineering fields.

Dr. A. D. Little, president of Arthur D. Little, Inc., briefly reviewed the history of his organization, which began business on October 1, 1886, as a firm under the style of Griffin & Little, with office and laboratory on the top floor at 103 Milk street, Boston. The business which first came to the firm was chiefly analytical, though for a number of years special emphasis was also given to consulting work in the pulp and paper industry in which Dr. Little had previously been active, his initial job having been that of superintendent of the first sulphite pulp mill in the United States.

Roger B. Griffin, Dr. Little's partner and father of Roger C. Griffin, chief chemist of the present organization, died in 1893 as the result of an explosion in the laboratory. Six years later the laboratory was moved to somewhat larger quarters at 7 Exchange Place, and the scope of the business was extended.

Shortly after in 1900, the firm of Little & Walker was organized. The partnership was dissolved five years later, when Dr. William H. Walker assumed the professorship of Chemical Engineering at Massachusetts Institute of Technology.

In 1902 another move was made—this time to 93 Broad street. Here the firm occupied at first half and later the entire sixth floor, but soon the fifth floor also was taken over, and then the fourth, as new departments were established.

In 1909 the concern was incorporated as Arthur D. Little, Inc. There were by this time many specialists on the staff, and departments were maintained for analyses and tests, research, fuel engineering, lubrication, forest products, biology, textiles and chemical engineering. Although the company was without an organized sales department, the gross business rapidly increased.

By 1914 the need for enlarged quarters and more working capital became imperative, and the company was re-organized with $250,000 preferred and $500,000 common stock, and plans were started which culminated in the present model industrial research laboratory building on Charles River Road, Cambridge, in which the company now does annually more business than in the first twenty years of its existence.

UNIFORM ROSIN — UNIFORM SIZE

Nearly every manufacturer is striving to produce uniform products. Lack of uniformity in raw materials is one of the most difficult obstacles to overcome. It is a distinct gain when difficulties from this cause can be reduced in any part of the process.

Such difficulties can be materially reduced in the sizing room by standardizing on Hercules Wood Rosin. It is kept up to specifications, and is made under strict chemical and physical control.

Hercules Wood Rosin is not only clean and uniform, but it has distinctive properties which make it an unusually good sizing agent. It is suitable for all but the white or light-tinted papers.

Our Service Department will gladly be of assistance in demonstrating when and how you may use Hercules Wood Rosin to advantage.

HERCULES POWDER COMPANY
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943 Market Street, Wilmington, Delaware

Branch Offices:

ALLENTOWN, PA.
BIRMINGHAM
BUFFALO
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HAZELTON, PA.
HUNTINGTON, W. VA.
JOPLIN, MO.
LOS ANGELES
LOUISVILLE
NEW YORK CITY
NORRISTOWN, PA.
PITTSBURG, KAN.
PITTSBURGH
POTTSVILLE, PA.
ST. LOUIS
SALT LAKE CITY
SAN FRANCISCO
WILKES-BARRE

New York Trade Jottings

William L. Hall, of Hall, Kellogg & Co., consulting foresters of Hot Springs, Ark., was in town last week.

* * *

Harry P. Gould, president of the Gould Paper Company, Lyons Falls, N. Y., and his family, spent a few days in New York last week.

* * *

George M. McKee, president of the Port Alfred Pulp and Paper Corporation, was a prominent visitor to New York last week.

* * *

Alan G. Goldsmith, of the Mead Investment Company, of Dayton, Ohio, spent a few days in New York last week in the interest of his organization.

* * *

Howard S. Taylor, consulting engineer, of Montreal, Que., renewed acquaintance with many of his friends in the New York paper industry last week.

* * *

Clyde Leavitt, in charge of fire protection service, of the Railway Commission of Canada, Ottawa, who possesses many friends in the paper industry, was a recent visitor to New York.

* * *

The annual banquet of the New York Association of Dealers in Paper Mills' Supplies, is to be held at the Hotel Astor, Wednesday, February 23.

* * *

There was a good attendance at the regular weekly luncheon of the New York Division of the Salesmen's Association of the Paper Industry, on Monday last, at the Canadian Club, New York.

* * *

The firm of Harry Elias & Co., paper and twine specialists, of 19-21 Seventh street, New York, have presented to their employees a bonus of 7 per cent of their individual annual salaries.

* * *

Announcement has just been made by D. Manson Southerland, Jr., consulting chemical engineer, of his opening a New York office at 341 Madison avenue. He will continue to maintain his office in the Broad Street Bank Building at Trenton, N. J.

* * *

Aaronson Brothers, paper merchants, announce their removal to 7-11 Greene street, New York. The telephone numbers have not been changed. With greatly increased facilities, Aaronson Brothers will be in a position to render improved service.

* * *

Norman W. Wilson, vice-president of the Hammermill Paper Company and President of the American Paper and Pulp Association, is spending ten days on a business trip in the South. He is accompanied by Roger B. Taft of the Hammermill organization. They expect to spend several days in Havana.

* * *

Major O. M. Porter, assistant secretary of the American Paper and Pulp Association, is on a two weeks trip among the mills in the southern states. Major Porter is visiting both member and non-member mills, and is looking into such matters as new construction, pulpwood situation, etc.

* * *

Marshall W. Warwick, Secretary of the American Waxed Association, and the National Gummed Tape Manufacturers Association, left for the middle west on January 17 for a two weeks trip among the mills, members of these two associations. Mr. Warwick has just spent a week in New England calling on members of his associations and getting acquainted with mill executives.

Dr. Hugh P. Baker, Secretary, American Paper and Pulp Association, has been in Washington in attendance at the Executive Committee of the National Commitee on Wood Utilization. This committee is a special committee developed by Secretary Hoover and financed by a special gift of $50,000 from a man particularly interested in wood utilization in the United States. At the meeting a special sub-committee on Fiber Containers was selected as follows: J. P. Hummel, Hummel-Ross Fibre Corporation, Hopewell, Va., Chairman; E. C. Betz, Consolidated Paper Company, Monroe, Mich.; Sidney Frohman, Hinde and Dauch Paper Company, Sandusky, Ohio; Dulaney Logan, The Mengal Company, Louisville, Ky., and B. I. Ward, Clifton Paper Mills, Passaic, N. J.

* * *

Less than seven months ago the J. F. Auer Paper and Board Corporation outgrew their old offices and moved into their present quarters at 475 Fifth avenue, New York, when E. E. Ketcham became associated with them, as secretary and sales manager (Ketch needs no introduction to the trade, being remembered as the one who organized the sales policy for the Brown Company, which started the Nibroc kraft towels on the road to success.) In addition to three board mills operated by them, they are also selling agents for four other mills making a line of kraft and sulphite papers that are sold exclusively to the jobbers and converters. Alex M. Sinclair, vice-president, (formerly eastern manager for the LaBoiteaux Company,) who has had wide experience covering a period of twenty years in the paper business, as a manufacturer and also in the sales end, has charge of the board department. They report all mills represented by them as running at a profit, and are now making plans for considerable increase in production at some of the mills.

Salesmen's Annual Meeting and Banquet

The annual meeting and banquet of the Salesmen's Association of the Paper Industry will be held at the Waldorf-Astoria Hotel, February 22. The annual business meeting is to be called to order at 10:30 A. M. in the East Room of the Waldorf-Astoria. Following routine business there will be an address on "Advertising" by a representative of one of the largest advertising firms in the country, covering phases of interest to paper salesmen.

The annual banquet will be held in the Roof Garden of the Waldorf at 7:30 P. M. After-dinner talk will be given by the Rev. H. P. Silver, D.D., followed by a big dance to a ten piece orchestra.

News Print Service Bureau Annual Meeting

In accordance with the regular custom, the Annual Meeting of the News Print Service Bureau will be held on Friday, January 28, at the Ritz-Carlton Hotel in Montreal.

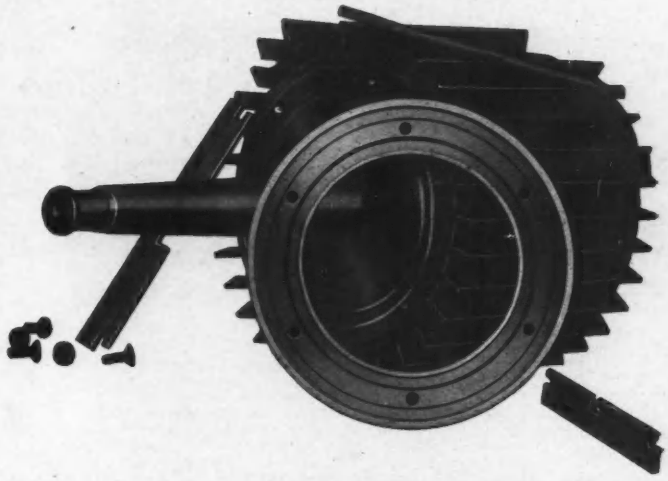
The meeting will take place immediately after the annual luncheon of the Canadian Pulp and Paper Association and the matters to be considered include the usual reports upon news print production and consumption, the election of officers for 1927 and other pertinent business.

As is always the case, Bureau members will find much of interest on the programs of the various sections of the Canadian Association on the 26th and 27th, and the general meeting of the Canadian Pulp and Paper Association on the morning of the 28th.

Paper Index Number Higher

WASHINGTON, D. C., January 18, 1927.—The wholesale index number in December for paper and pulp was 157.6 compared with 156.9 for November and 170 for December, 1925, taking 1913 at 100 per cent according to the Bureau of Labor Statistics, Department of Labor.

Valley Bandless Roll



Save Time and Labor in the Beater Room

Equip Your Beaters with this Modern Roll

There are very definite reasons why Valley Bandless Rolls save time and labor in the beater room, are more efficient and produce paper more economically. The features of accessibility, safety, durability and saving time, that were so quickly recognized in the quick detachable automobile rim, are the same features that have caused paper manufacturers to adopt Valley Bandless Rolls as efficient money-saving equipment.

The Valley Bandless Roll is constructed so that one, ten, any or all of the bars may be removed without taking the roll from the tub. The bandless ring and milled slots prevent fly bars from working loose. The time and labor of refilling roll is reduced 50%. This roll can be easily dismantled without heating, thus eliminating danger of cracking and ruining entire roll. Moreover, flybars are standardized, both as to punching and hand, for each width of face. This advantage is valuable to the mill operating a large battery of beaters. Write today for more information about Valley Bandless Rolls.

The Valley Bandless Roll is so much easier to use and so much time is saved in refilling that the cost of installation is soon more than equalled by time and labor saved. We will be glad to furnish you full particulars.

200
IN OPERATION

VALLEY IRON WORKS CO.

APPLETON, WISCONSIN

New York Office: 350 Madison Ave.

PAPER TRADE JOURNAL
ESTABLISHED 1872
With Which Is Combined
PAPER
The Magazine of the Paper Industry
HENRY J. BERGER, Editor

Member A. B. C. Audit Bureau of Circulations

Vol. LXXXIV New York, January 20, 1927 No. 3

COMING EVENTS

Fiftieth Anniversary of the American Paper and Pulp Association, Convention and Meeting of Affiliated Associations, Waldorf-Astoria Hotel, February 21-24. Annual Banquet, Grand Ball Room, Thursday, February 24.

National Paper Trade Association of the United States, Convention, Waldorf-Astoria Hotel, February 21-23. Theatre Party, Imperial Theatre, Musical Comedy, "Oh, Kay"; Supper Dance, Hotel Astor Roof, Wednesday, February 23.

Technical Association of the Pulp and Paper Industry, Convention, Waldorf-Astoria Hotel, February 21-24. Annual Banquet, Hotel Commodore, Wednesday, February 23.

Salesmen's Association of the Paper Industry, Convention, Waldorf-Astoria Hotel, February 22. Annual Banquet and Dance, Roof Garden, Tuesday, February 22.

New York Association of Dealers in Paper Mill Supplies. Annual Banquet, Hotel Astor, Wednesday, February 23.

PAPER EXPORTS SHOW DECREASE

Exports of paper and paper products from the United States during November again showed a slight decrease in comparison with the preceding month, according to the Paper Division of the Department of Commerce, owing largely to a fall in the volume of shipments of several leading items such as as news print, book, and wrapping papers, boards, boxes and cartons. On the other hand, with a few exceptions, exports were much larger than during the corresponding month in 1925 although due to the generally lower trend in average values these increases are not reflected in the value of exports, which in the aggregate exceeded the November, 1925, exports by only 3 per cent.

The most important gains were registered in shipments of book and writing papers and boards of all kinds. A considerable increase also took place in shipments of a number of paper specialties such as toilet paper, office forms, cash register and adding machine paper, and vulcanized fiber products. Exports of news print, which have shown a downward trend for some time did not improve during November, shipments for the month showing a further decline of 10 per cent in comparison with October, and of nearly 60 per cent when compared with those made during November, 1925. Exports of boxes and cartons, which have likewise shown a tendency to decline during 1926 also fell off during November, a decrease of 35 per cent being registered in comparison with the preceding month and also with the corresponding month in 1925. Exports of paper and paper products reached an aggregate value of $2,114,705 in comparison with $2,204,717 during October and $2,039,283 in November, 1925.

Exports of paper base stocks during November were valued $417,667, an increase of 12 per cent over the preceding month but a decrease of 25 per cent compared with the corresponding month in 1925. Shipments of sulphite pulp and of rags and similar stock, which compose the bulk of this class of exports, show reductions in volume of 5 and 12 per cent in comparison with the preceding year, the fall in value being approximately twice as great.

Imports of paper and paper products into the United States during November, which reached a total value of $12,648,941, were about a fourth larger than during the same month in 1925, but show a slight drop in comparison with the preceding month. News print imports, which always compose from 85 to 90 per cent of the value of the total receipts, amounted to 339,154,000 pounds during November, a decrease of 2 per cent in comparison with the incoming shipments during October, but an increase of 32 per cent over the corresponding month in 1925. Relatively the same decrease in comparison with the previous month also occurred in the receipts of other classes of paper and board, which had a total value of $1,374,379. Compared with November, 1925, aggregate imports exclusive of news print paper, show a rise in value of 10 per cent. This increase, however, came about largely as a result of the higher average value of most classes since the volume of shipments generally shows a reduction. Exceptions were miscellaneous boards, which increased 114 per cent, cigarette papers, which increased 39 per cent, and writing and bond papers which increased 2 per cent.

Imports of paper base stocks during November show a reduction in comparison with the preceding month, but slightly exceeded imports during the corresponding month in 1925. The favorable showing in regard to the latter period was owing to increased receipts of peeled pulpwood, sulphite, pulp, and kraft pulp. Imports of mechanical groundwood and of rags, which rank among the leading import items in this class, were also considerably under the volume of receipts during October. Total imports of paper base stocks during November were valued at $9,687,313, of which $754,091 represented 69,265 cords of pulpwood and $8,933,222 represented 158,437 tons of wood pulp, rags, and other paper base stocks.

PUBLICITY FOR PAPER

The Annual Business Survey of the *New York Evening Post*, issued January 3, 1927, contains a wealth of economic experience and predictions by leading business men and economists. All the major industries of the country are covered, PAPER being represented by a short article by Mr. A. R. Graustein, president of the International Paper Company.

It is significant, in a sense, that of the 68 pages of this review, but a half column is devoted to paper—a billion dollar industry. On the other hand, much space is occupied by reviews and predictions in the lumber, automobile, building, electric, gas and agricultural industries.

All indications point to 1927 as a period of reasonable prosperity, falling commodity prices, severe domestic and foreign competition, low cost volume production for wide geographic distribution and high grade specialties production for more local markets.

The products of the paper industry are in direct competition with lumber, metals, textiles, etc. The consuming public will buy where it can get the most for its money, and what it is taught to buy by advertising.

Mills manufacturing similar grades of paper will compete more or less with each other. Paper, as such, will stand a fair chance against other commodities only as it is sold by individual mills and as it is sufficiently advertised to develop a buyer's "paper consciousness."

Automobiles are bought because of their utilitarian character and from the fact that they are sold to the public by individual salesmanship, cooperative merchandising and mass advertising it would seem that the time had come when the Paper Industry could afford to advertise paper—to stimulate the individual demand for paper and paper products. This means advertising, well directed publicity, which could be best accomplished by the Industry's national association, the American Paper and Pulp Association, in keeping paper constantly before the public—telling the story of paper, its use and advantages. In short, it seems that the industry is penalized and handicapped by not providing sufficient funds for a well organized, efficient information service in the American Paper and Pulp Association.

Salvages News Print Cargoes

FORT EDWARD, N. Y., January 15, 1927.—The International Paper Company has completed the salvaging of the news print cargoes contained on nine barges which were caught in the canal freeze-up early in December while en route from Canadian mills to Metropolitan points. The work was completed without a hitch, the nine barges being unloaded at Lock 7 and the paper trucked to the Delaware & Hudson freight station where it was transferred to freight cars.

Three other boats containing paper and frozen into the canal near here are now being unloaded under the direction of W. A. Leaper, of Montreal, traffic manager of the St. Lawrence Sales Company, of that city, which owns the shipments. The cargoes of two of the boats have already been transferred to the railroad for shipment to New York and the work of unloading the third barge is now under way. It became necessary to erect additional rigging for unloading the last boat as it is frozen into the ice beyond reach of the crane at Lock 7.

T. E. Pope, vice president of the St. Lawrence Sales Company and located at the New York office, was in Fort Edward last week in connection with the salvaging work. Unloading of the three shipments owned by the St. Lawrence Sales Company presented a difficult proposition because of the locations of the boats in the canal, they being frozen solidly into the ice which is approximately fourteen inches thick at this point.

Increasing Canadian News Print Production

With additions to Canadian news print capacity, the daily output possible in 1927 is expected to reach 8,500 tons, compared with a rated capacity of 7,350 tons at the present time, 5,700 tons at the beginning of 1926 and 4,750 tons at the beginning of 1925. Of the 8,500 tons daily capacity which will obtain when additions planned for this year are completed, 1,300 tons or approximately 15 per cent will be in the two plants of the Canadian International Paper Company, at Three Rivers and Gatineau, Quebec. This company is a subsidiary of the International Paper Company.

Canadian news print output first reached 1,000 tons a year in 1922. Due to the new construction now proceeding, it is expected to cross 2,000,000 tons in 1927, definitely establishing Canada as the leading news print producing country in the world.

To Give Course in Sulphite Wood Pulp

MADISON, Wis., January 17, 1927.—An intensive ten-day course of instruction in the manufacture of sulphite wood pulp will be given by the U. S. Forest Products Laboratory here February 28 to March 10 and will be repeated March 21 to 31. The decision to give courses especially adapted to the needs of sulphite superintendents and tour bosses was made in response to urgent demands from the trade. The instruction given the February 28 class and the March 21 class will be identical.

All of the experimental and consulting facilities of the laboratory's pulp and paper division will be placed at the disposal of the sulphite makers. In order to insure ample personal attention for each student only 15 men will be enrolled in each class.

The new courses will give instruction in and demonstrate by experimental cooks of sulphite cooking developed through several years of research. The sulphite cooking methods to be demonstrated have proven in mill tests to result in better yields and greater uniformity of product than usual mill practice.

Fifteen lectures will be given to each group of men enrolled. In connection with the demonstration cooks the technique of the several tests necessary for the control of cooking and for determining yield and quality of pulp will be taught by having the students themselves test the product of the cooks. The application of experimental results to mill operations will be discussed.

A feature of each first day's program will be an informal conference of students and instructors in which the various mill representatives will present mill problems which they want to hear discussed. Students will also have the opportunity to clear up by personal consultation any questions which may remain unanswered after the conclusion of the lectures and demonstrations.

A demonstration will be made of the recently developed use of the rod mill as a refiner for sulphite screenings.

Some of the lecture subjects are as follows: "Pulp quality and methods of determination," "Cooking: The acid," "Cooking: The pressure rise period," "Pressure and temperature in cooking," "Regulation of yield and pulp quality," "Cooking hemlock and hardwoods."

Since no Forest Service funds are available for instructional purposes a cooperative fee of $250 will be required of each mill representative enrolled in the short courses.

Applications for enrollment, specifying whether the February 28 or the March 21 course is preferred, should be addressed to the Director of the Forest Products Laboratory, Madison Wisconsin. Present plans do not provide for repeating the courses.

P. J. Smith Goes to Three Rivers

CORINTH, N. Y., January 15, 1927.—P. J. Smith, superintendent of the sulphite mill of the International Paper Company here, has been transferred to Three Rivers, Canada, where he will be associated with C. W. Walker, who recently assumed the management of the Three Rivers Mill after being head of the Hudson River Mill here for many years. Mr. Smith is an old employee of the I. P. Co., and has been superintendent of the sulphite department of the local plant for a number of years. His transfer to Three Rivers, which is a mill of larger capacity than the local plant, is regarded as an advancement. He will have charge of the sulphite mill operated as part of the Three Rivers plant.

Mr. Smith's successor as superintendent of the local sulphite mill is Julian Miller, according to announcement made this week. Mr. Miller is a resident of this village and has been connected with the Hudson River Mill for a considerable period.

C. V. Cassidy, the new general manager of the Hudson River Mill appointed a few weeks ago to succeed C. W. Walker, has assumed his duties as head of the local plant. The only change in the executive forces announced to date is that affecting the sulphite department.

Typical American Filter Installation in Paper Mill. This unit is used on white water from newsprint machine

White Water Changed Into Clear Water

WHITE water gets its name significantly. Clear water, too, has a meaning.

White water changed into clear water means losses changed into profits—thru the recovery of fibre. The best places to check these losses are where they occur.

American Pulp Type Filters are being successfully used as deckers, combined deckers and save-alls, or as bleach washers and save-alls.

For instance, the Abitibi Power and Paper Company is using an 8 foot-9 disc American Filter on ground wood pulp as a decker. Savings are conservatively estimated at 5.25 B.D. tons daily.

This company is now installing two more units as combined deckers and save-alls in their sulphite mill.

Wherever American Filters have been installed, white water has been changed into clear water.

UNITED FILTERS CORPORATION

Main Office and Laboratory: Hazleton, Pennsylvania

New York Los Angeles Chicago Salt Lake City

Export Office: 25 Broadway, New York City *Code Address: Unifilter, New York*

Section of the

Technical Association of the Pulp and Paper Industry

AN ORGANIZATION FOR THE ENCOURAGEMENT OF ORIGINAL INVESTIGATION AND RESEARCH WORK IN MILL ENGINEERING AND THE CHEMISTRY OF PAPER, CELLULOSE AND PAPER-MAKING FIBERS GENERALLY; IT AIMS TO PROVIDE MEANS FOR THE INTERCHANGE OF IDEAS AMONG ITS MEMBERS IN ORDER THAT PROCESSES OF MANUFACTURE MAY BE MADE MORE EFFICIENT AND IMPROVED ALONG TECHNICAL LINES.

Conducted by W.G.MacNAUGHTON, Secretary

Special Inquiries From TAPPI Members

Steam Per Ton of Sulphite and News Print Paper

SPECIAL INQUIRY No. 62

A member who makes sulphite pulp and news print paper is anxious to get data on the general practice regarding the amount of steam used in making these products.

For convenience the following outline of items is given:

PAPER

1. Paper made per day.—Tons.
2. Steam per ton of paper—pounds per ton. (average for year)

(Include steam for power, make up steam for drying, steam for heating and other purposes in the paper mill. Indicate if measured or estimated).

SULPHITE

1. Sulphite made per day.—Tons.
2. Steam per ton of sulphite—pounds per ton (average for year)

(Include steam for digesters, acid plant, and wet machine room, steam for heating and other purposes such as power for wood room and sulphite mill—Indicate if estimated or measured.

STEAM

1. Pounds of coal used per 100 pounds of steam.
2. Cost of steam per 1,000 pounds.

(Include full labor and maintenance as well as rental and overhead if available—Indicate items included)

Responses received will be transcribed in blank and those participating will receive a copy of the Special Report containing the responses.

W. G. MACNAUGHTON, Secretary,
TAPPI, 18 East 41st street, New York.

How to Control the Relative Strength of Paper With and Across the Grain

SPECIAL INQUIRY No. 63

A member writes:—

"We have two classes of all-sulphite paper to make. In one, the ratio of the tensile strength with and across the grain is wanted as high as possible—on the other the tensile strength in the two directions should be as nearly as possible equal. In other words, the ratio should be low.

"We have two fourdrinier machines on which to make the two grades. One of them has a Voith high stock inlet while the other has the ordinary slices.

"What can I do on these machines to control the ratio of strength with and across the grain?

This is a very interesting inquiry and responses from all practical paper men are especially invited. The replies will be transcribed in blank so that the identity of the writer is not disclosed and all who contribute towards it will receive a copy of the special report on the problem.

Send replies to

W. G. MACNAUGHTON, Secretary,
TAPPI, 18 East 41st street, New York.

Humidity Conditions in Carton Plants

SPECIAL INQUIRY No. 61

A member who is connected with a plant making folding paper boxes wants to know the proper relative humidity that should be carried in the carton factory to eliminate troubles from curling during the operations. A discussion of this subject as well as the importance of keeping the moisture content of board uniform will be welcomed.

1. What is the proper moisture content of the board?
2. What degree of relative humidity is carried in the carton plant?
3. Discuss folding box board and carton troubles, then causes and remedies.

The first response is that there is one point of greater importance than those mentioned, the uniformity both of moisture content of the board and of the degree of relative humidity in the converting plant. Then the air should be conditioned so that it and the box board is in equilibrium. Roughly, board at about 6.5 per cent moisture content and air at 55 per cent relative humidity are in this balanced condition. One will neither give up nor take moisture from the other.

If the condition changes however curling may result.

A copy of the special report compiled from the responses will be sent to all who contribute to the discussion.

W. G. MACNAUGHTON, Secretary,
TAPPI, 18 East 41st street, New York.

To Erect Second Unit at Longview

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., January 14, 1927.—Charles P. Schaub, president of the Pacific Straw Paper and Board company of Longview, Wash., has announced definitely that his company will start immediately the construction of the second unit of the plant. The first unit, which has been in operation since last April, manufacturing box board principally with a 30 ton daily output, represents an investment of $375,000.

TECHNICAL SECTION, PAGE 31

Glue as Beater Sizing*

By George K. Hamill,[1] Merle B. Shaw,[2] and George W. Bicking[3]

I. Introduction

During the early periods of paper manufacture the improvements in surface finish, resistance to ink, and increased strength, that, combined, are designated as "sizing" were obtained by immersing the sheets of paper in a bath of gelatin or glue solution. Since the discovery, about 1807, of the process of sizing paper by decomposing rosin soap with alum in the beating engine, the process of surface sizing with gelatin has gradually been confined to use in high-grade, rag-content and special papers.

Rosin sizing offers the advantages of cheapness with ease of application and introduces no special drying problems. It does not, however, ordinarily impart to the finished paper certain properties of hardness, resiliency, and strength that characterize papers surface sized with glue. Some papermakers have added glue to the beating engine in conjunction with rosin size, claiming that the papers so made are better sized and are improved in certain desirable qualities. This practice has not become more general because under some conditions the use of glue causes excessive foaming in the beater. In such cases an excessive amount of glue remains dissolved and passes out of the paper in the waste water from the papermaking machine.

During the World War, on account of the shortage of rosin and of the better grades of papermaking fibers in Europe, there were devised or revived certain processes for the use of glue in the beating engine. It has been claimed that through adopting certain procedures or through the use of special reagents, the excessive foaming and poor retention of glue could be avoided and satisfactory sized papers of improved qualities produced even from inferior raw materials. These processes have been reported to be especially valuable in improving the strength and other desirable features of papers containing considerable amounts of mineral fillers. In the methods referred to, aluminum compounds are generally used to jell the glue solution before its addition to the beater and it is claimed that thereby the difficulties commonly met with in this use of glue are escaped.

The possibility of improving certain desirable qualities in papers, and through such improvements in quality, of extending the use of cheaper papermaking materials such as mineral fillers and reclaimed papers, has led to the investigation of the use of glue in the beater sizing of paper by the Bureau of Standards in cooperation with the Glue Research Corporation. A study was first made of certain of the procedures noted above and of simpler methods of adding the glue to the beating engine. Following this, the scope of the investigation included consideration of such variables as the use of different kinds of pulps, of various grades of glues, and of several modifications of the engine-sizing process.

II. Paper-Making Materials

1. Fiber

The fibrous materials used in the paper making tests were sulphite, soda, and sulphate (kraft) wood pulps, and reclaimed bleached sulphite-soda book papers. The chemical wood pulps were commercial grades obtained from the manufacturers. When reclaimed papers were used, they were de-inked in the semi-commercial digester of the Bureau experimental paper mill and converted into thick, moist sheets of pulp for later use.

2. Filler

Two domestic clays, mined in Georgia and South Carolina, respectively, were used in a number of the preliminary and book paper trials. In a few early trials commercial crown filler (precipitated calcium sulphate) was used.

3. Glue

Seven different lots of commercial glues, classified respectively as high, good, medium, and very low, grade hide glues and high, good, and medium grade bone glues, were used in the experimental work. Test data of these glues are given in Table 1.

TABLE 1
TEST DATA OF GLUES

Mark	Jell Strength Grams [4]	Viscosity Millipoises [4]	Acidity PH [5]	Type
4	295	85	6.10	High grade, hide
5	260	78	6.10	Good grade, hide
A-2	185	52	6.60	Medium grade, hide
A-1	26	28	6.80	Very low grade, hide
8	228	61	6.00	High grade, bone
B	164	42	4.00	Good grade, bone
6	111	40	5.50	Medium grade, bone

III. Papermaking Equipment

The Paper Section of the Bureau of Standards is equipped for making paper in a semicommercial way under practical mill conditions. The experimental equipment available for the work reported herein consisted of a 50-pound wood tub beater with manganese bronze bars and plate, a small jordan with steel bars, a 4-plate screen, and a 29-inch fourdrinier machine with wire 33 feet long and having two presses, nine 15-inch driers, a small machine stack of seven rolls and a reel.[6]

1. Study of Glue-Jelling Agents

For jelling the glue solution as in the Zellkoll[7] and similar processes, aluminum formate is recommended. This is prepaired by mixing barium formate and aluminum sulphate solutions in equivalent proportions so that all the barium and sulphur are precipitated as insoluable barium sulphate, leaving a clear solution of aluminum formate. Such an aluminum formate solution was used in this investigation for jelling the glue solutions. For acidifying the beater waters ordinary papermakers' alum was used. A considerable number of laboratory experiments were made to test the relative efficiencies of aluminum formate, aluminum sulphate, and chrome alum in jelling glue solution.

In the processes under investigation the directions state that the drying of the paper must be done in a careful manner, beginning with a low temperature on the first drying cylinder and increasing the heat gradually on succeeding cylinders.

The drying section of the Bureau experimental papermaking machine does not permit adjusting the heat in this manner. Consequently, the effect of drying temperature on papers engine-sized with glue was studied on sheets formed on a hand mold[8] and dried either in an open room at about 25 degrees C; in an electric oven under controlled temperature conditions up to 60 degrees C; or on an aluminum plate at 110 degrees C.

A number of semicommercial paper making trials were then made to study the effects of glue jelled with aluminum formate on the quality of sulphite-soda book paper. Comparative trials were made using unjelled glue and blank runs using rosin size,

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* Published by permission of the Director of the Bureau of Standards, of the United States Department of Commerce, Washington, D. C.

[1] Research Associate at the U. S. Bureau of Standards for the Glue Research Corporation.
[2] Paper Technologist, U. S. Bureau of Standards.
[3] Paper Maker, U. S. Bureau of Standards.

[4] As measured with the approved equipment and by the approved methods of the National Association of Glue Manufacturers. Standard methods of glue testing: Industrial and Engineering Chemistry, 16, pp. 310-315, March, 1924.

[5] Determined colorimetrically.

[6] Photographs of the beater, jordan, and fourdrinier machine are shown and the general processes of making paper are described in B. S. Tech. Paper No. 262, pp. 340-341: Comparison of American and foreign claps as paper fillers: Shaw and Bicking. Copies may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., for 15 cents.

[7] German patents 303,828, Aug. 11, 1915; 306,688, Dec. 9, 1915, and 311,390, Jan. 30, 1916. French patent 520,102, July 9, 1920.
Ferenczi, Sigismund, The Zellkoll process: Paper 27, No. 18, p. 13, June 5, 1921.
Queries and answers on the Zellkoll process: Der Papierfabrikant 17, pp. 306, 390, 420, 447, 788 and 987 (1919).

[8] Shaw, M. B., and Bicking, G. W., Method of making uniform fiber sheets for test purposes: Paper Trade J. 79, No. 21, pp. 51-53 (Nov. 20, 1924).

TABLE 2.—BEATER FURNISH AND PAPER TEST DATA, PRELIMINARY PAPER-MAKING TRIALS

Beater furnish: Pulp Sulphite %	Pulp Soda %	Filler Crown %	Filler Clay %	Rosin size % [24]	Glue Kind [25]	Glue Jelled % [26]	Glue Solution % [27]	pH values: Beater water	pH values: Machine water	Weight, 500 sheets, 25 by 40 inches lb.	Bursting strength pts.	Ratio, brst. strength to weight, 25x40, 500 %	Thickness in.	Physical tests: Tearing strength Machine direction gr.	Tearing strength Across machine direction gr.	Folding endurance Machine direction Dbl. Folds	Folding endurance Across machine direction Dbl. Folds	Degree of sizing: Indicator method Sec. [28]	Degree of sizing: Curl method Sec. [28]	Chemical tests: Ash %	Resins %	Glue [29] %	Filler retention %	Glue retention %	Brightness value: Blue	Brightness value: Green	Brightness value: Red	Color: Total	Optical tests: Brightness: Blue %	Brightness: Green %	Brightness: Red %	Gloss (finish) average of wire and felt sides %	Opacity
50	50			½		0		4.2	4.6	54.9	25.4	46.3	0.0034	50.8	48.0			45.4	13.8	0.48	0.45	0	....	....	0.714	0.791	0.854	2.359	30.3	33.5	36.2	28.9	0.8947
50	50			1		0		4.5	5.0	56.0	24.5	43.8	.0036	50.9	49.3			62.7	21.4	.51	.89	0	....	....	.714	.795	.853	2.362	30.2	33.6	36.2	29.2	.9009
50	50			2		0		4.5	5.0	58.6	23.6	43.7	.0037	52.6	50.6	59	45	67.5 [30]	20.3	1.30	0		....	....	.721	.806	.863	2.390	30.2	33.7	36.1	28.0	.8883
50	50			½		1½		4.2	4.6	57.6	29.8	51.7	.0039	51.0	48.0	60	58	49.0	16.2	.52	.36	0.93	....	....	.715	.800	.865	2.380	30.1	33.6	36.3	27.3	.9036
50	50			0		4		4.0	4.5	55.4	27.4	50.2	.0038	48.4	45.5	74	51	0	0	.43	0	1.23	....	....	.800	.865	.868	2.381	30.1	33.6	36.3	27.0	.8921
50	50			0		4		7.0	7.2	54.6	28.5	52.2	.0034	52.4	41.7	41	35	0	0	.31	0	1.19	....	....	.800	.868	.868	2.389	30.0	33.7	36.3	27.0	.8833
50	50			0		4	2	4.0	4.5	57.7	31.0	53.8	.0038	51.6	48.6	50	50	0	0	.42	0	1.19	....	59.5	.717	.804	.865	2.369	29.9	33.6	36.5	30.1	.8900
50	50			0		4		4.0	4.5	52.3	27.6	52.8	.0037	45.2	42.0	46	89	53.3 [30]	14.3	10.24	.93	1.80	....	45.0	.707	.797	.865	2.369	29.9	33.6	36.5	29.0	.8928
50	50			0		4		4.0	4.5	57.7	31.0	53.8	.0033	51.6	48.6	50	46	0	0	.41	0	1.80	....	....	.718	.791	.854	2.363	30.4	33.5	36.1	29.0	.9164
40	40	20		1		4		4.3	4.5	57.4	22.9	39.9	.0033	45.4	43.2			41.4	12.3	8.56	1.08	1.54	41.3	67.5	.705	.782	.843	2.330	30.2	33.6	36.2	29.8	.9010
40	40	20		1		4		4.4	4.8	54.4	22.4	41.2	.0030	44.8	41.0			41.4	11.8	9.48	.95	1.34	42.2	57.5	.710	.783	.836	2.329	30.5	33.6	35.9	30.1	.8726
40	40	20		1		4	2 [31]	4.3	4.6	53.6	23.0	42.9	.0031	43.2	39.0			16.1 [32]	7.5	13.69	.88	.13	23.4	....	.708	.780	.843	2.331	30.4	33.4	36.2	31.0	.9595
40	40		20	1		4		4.0	4.5	54.9	15.7	28.6	.0031	46.0	42.0			36.2 [32]	12.0	13.63	1.09	1.77	75.3	82.0	.711	.791	.852	2.354	30.2	33.6	36.2	31.5	.9341
40	40		20	1		4		4.1	4.6	55.0	21.3	38.7	.0031	46.6	41.4			41.4	11.5	13.67	1.48	1.30	75.2	72.2	.691	.792	.854	2.337	29.6	33.9	36.5	28.7	.9401
40	40		20	1		4	1.87	3.9	4.2	56.9	21.6	38.0	.0031	48.2	42.0			41.4	12.2	14.54	1.12	1.64	79.0	75.5	.698	.774	.842	2.314	30.2	33.4	36.4	32.2	.9309
40	40		20	1		4	2 [31]	4.2	4.6	56.5	20.6	36.5	.0031	41.2	39.0			39.6	11.6	14.55	1.13	1.51	78.3	69.0	.711	.791	.859	2.361	30.1	33.5	36.4	30.5	.9724
40	40		20	1		4	2 [31]	4.2	4.8	55.6	18.7	33.7	.0032	41.4	39.0			40.7																

[24] See Table 1.
[25] Based on weight of pulp and filler furnished.
[26] Ordinary folding endurance tester used; 1.0 kg. tension on test strips.
[27] Nitrogen determinations made by I. M. Welch, Asst. Chemist, U. S. Bureau of Standards.
[28] Optical test measurements made by R. E. Lofton, Associate Physicist, U. S. Bureau of Standards.
[29] Jelled with chrome alum; all other jelled glues were treated with aluminum formate.
[30] Glue mixed with filler before adding to the beater.
[31] A higher degree of sizing is shown by a larger number of seconds.
[32] Soft sized. [33] Medium sized. [34] Well sized. [35] Rather hard sized.

in the first trials no mineral filler was used, in some of the later ones crown filler was added, in others, clay. In two experiments the glue was mixed in the clay slip while this was being prepared for addition to the beater. The beating, jordaning, and papermachine processes were kept as nearly uniform as possible and any operating difficulties were carefully noted.

Since the directions for the processes studied call for good hide glue, a highgrade hide glue was used for most of the experiments, although such glue would be impractical for commercial purposes because of its high price. In two trials a highgrade bone glue was used. The percentages of glue and rosin were based on the weight of bonedry pulp or, when fillers were used, on the combined weight of the pulp and filler.

IV. Test Procedure

2. Semi-commercial Trials with Glue Solutions

Twenty-five semi-commercial paper making trials were made with sulphite pulp to study the various conditions of the use of glue and rosin size and the effects of those materials on the paper. A low-grade hide glue was used for the first few of these tests. When glue was used, it was added to the beater as a 10 per cent solution. The required amount of glue was soaked in nine times its weight of cold water until thoroughly swollen and was then dissolved by heating on a water bath. In one trial the glue solution was mixed with the rosin size before adding to the beater.

Two machine runs were made without either glue or rosin but with sufficient alum added to the beater to provide a pH value of 4.5. Previous work by Shaw[9] had indicated that optimum at this hydrogen-ion concentration. This was confirmed in the preliminary study noted in the previous section and throughout this investigation the hydrogen-ion concentration was carefully controlled. Further machine tests were then made using different amounts of rosin size, various grades and amounts of glues, and different sequences in the order of adding the various materials to the beating engine. Later trials were made with 50 per cent sulphite-50 per cent soda pulp, without and with the addition of 20 per cent of clay filler; with 100 per cent kraft pulp and with 90 per cent of clay filler—10 per cent soda pulp. Glue additions were made under the optimum conditions indicated by the earlier work. Blank runs without glue but containing rosin size were made with each type of beater furnish.

3. Physical and Chemical

Physical tests[10] of the experimental papers were made under standard conditions of 65 per cent relative humidity and 70 degrees F. temperature. In the preliminary study the folding endurance tests were made on an ordinary testing machine, using the standard tension of 1 kg. on the test strips. The papers containing mineral fillers were found to be too weak for testing under such conditions and in the later work the folding endurance tests were made at 0.8 kg. tension with a special adjustable-tension tester.

The degree of sizing were determined by the indicator[11] and curl[12] methods. Ash and rosin determinations were made by the usual methods[10]. The amount

[9] Shaw, M. B., Hydrogen-ion control in the paper mill. Paper Trade Journal 81, No. 10, pp. 59-62 (Sept. 3, 1925).
[10] Paper testing methods, Technical Association of the Pulp and Paper Industry, New York (1924).

TABLE 3.—BEATER FURNISH AND PAPER TEST DATA, SEMICOMMERCIAL PAPER-MAKING TRIALS WITH GLUE SOLUTIONS

Beater furnish									pH values		Physical tests										Chemical tests			Glue retention
Pulp				Clay	Rosin size	Glue		Order of furnishing materials to beater							Tearing strength		Folding endurance C		Degree of sizing		Ash	Resins		Glue
Sulphite	Soda	Reclaimed paper	Sulphate (Kraft)			Kind B	Amount		Beater water	Machine water	Weight, 500 sheets, 25 by 40 inches	Bursting strength	Ratio, bstg. strength to weight, 25x40, 500	Thickness	Machine direction	Across machine direction	Machine direction	Across machine direction	Indicator method	Curl method		Alcohol method	Ether method	
Writing Paper																								
%	%	%	%	%	% A		% A				lb.	pts.	%	in.	g.	g.	Double folds	Double folds	Sec.	Sec.	%	%	%	%	%
100					0	...	0	Pulp—alum	4.1	4.5	55.5	38.2	69.0	0.0038	58.5	55.9	1200	390	0	0	0.21	0.61	0.50	0	...
100					0	A-1	2	Pulp—glue—alum	4.0	4.5	56.0	38.0	67.9	.0038	59.8	52.8	1135	425	0	0	.19	.61	.39	1.19	57.6
100					0	A-1	2	Pulp—alum—glue	4.0	4.5	54.8	36.8	67.2	.0039	60.0	53.8	1060	490	0	0	.17	.87	.46	1.02	51.2
100					1	...	0	Pulp—size—alum	4.0	4.4	55.6	36.4	65.5	.0039	61.8	54.2	740	360	27.2	21.5	.17	1.27	1.10	0	...
100					2	...	0	do	4.0	4.4	54.3	32.2	59.3	.0037	61.4	54.0	855	545	25.4	22.6	.22	2.02	1.76	0	...
100					1	A-1	1	Pulp—glue—size—alum	4.0	4.4	56.0	37.7	67.3	.0038	62.5	53.6	1103	517	27.6	23.3	.17	1.31	1.20	.72	73.7
100					1	A-1	1	Pulp—size—glue—alum	4.0	4.4	55.5	36.6	65.9	.0038	50.2	49.4	975	755	26.1	21.2	.17	1.28	1.15	.65	65.7
100					1	A-1	2	Pulp—glue—size—alum	4.0	4.4	55.6	37.6	67.6	.0038	60.4	53.6	1060	505	27.5	22.9	.21	1.30	1.20	1.05	52.8
100					1	A-1	¼	Pulp—(glue and size) D—alum	4.0	4.4	55.3	35.7	64.5	.0038	62.0	50.2	1115	400	25.8	23.0	.16	1.16	.80	.12	52.8
100					2	A-1	1	Pulp—glue—size—alum	4.0	4.4	52.9	35.4	66.9	.0037	57.7	52.6	822	415	26.6	21.8	.20	1.95	1.74	.65	65.6
100					2	A-1	1	Pulp—size—alum—glue	4.0	4.4	56.4	35.9	63.6	.0040	63.6	56.4	970	320	26.7	22.0	.22	2.09	1.87	.66	66.6
100					1	5	1	do	4.0	4.4	55.5	36.3	65.5	.0037	54.8	49.6	792	320	28.5	26.6	.17	1.12	1.01	.81	80.9
100					1	5	2	do	4.0	4.4	56.5	37.1	65.7	.0038	55.7	49.5	1097	433	32.1	27.9	.15	1.34	1.29	1.39	70.2
100					1	A-2	1	do	4.0	4.4	56.9	36.7	64.3	.0038	57.8	53.2	1025	438	30.6	26.2	.15	1.20	1.03	.77	79.1
100					1	B	1	do	4.0	4.4	56.9	32.4	56.9	.0037	57.8	58.0	950	455	32.5	27.6	.10	1.38	1.12	.76	77.0
100					1	6	1	do	4.0	4.4	56.2	35.3	62.8	.0038	58.6	56.2	682	536	31.8	23.7	.10	1.33	1.18	.72	70.3
Book Paper																								
50	50				1	...	0	Pulp—size—alum	4.0	4.4	56.8	25.4	44.8	.0042	54.0	48.3	59	38	26.6	20.9	.27	1.17	1.05	0	...
50	50				1	5	1	Pulp—size—alum—glue	4.0	4.4	56.0	23.7	42.3	.0039	48.0	44.4	59	41	24.0	20.8	.28	1.10	1.06	.79	79.4
50	50				1	B	1	do	4.0	4.4	53.7	23.8	44.3	.0039	44.2	41.8	68	64	28.9	20.0	.29	1.20	1.05	.77	77.7
40	40			20	1½	...	0	Pulp—clay—size—alum	4.0	4.4	56.1	15.1	26.9	.0038	53.9	49.7	10	7	17.7	12.5	12.69	1.49	1.45	0	...
40	40			20	1½	B	1	Pulp—clay—size—alum—glue	4.0	4.4	55.8	18.0	32.3	.0039	52.4	50.4	17	11	19.3	14.4	11.90	1.41	1.33	.73	73.7
40	40			20	1½	5	1	do	4.0	4.4	55.2	16.1	29.1	.0038	46.2	45.4	11	9	18.4	13.6	12.76	1.57	1.37	.78	78.1
40	40			20	1½	A-2	1	do	4.0	4.4	54.6	16.9	30.8	.0037	46.4	44.8	13	14	20.8	13.7	12.28	1.69	1.49	.78	79.3
40	40			20	1½	A-2	1	Pulp—(clay and glue) E—alum—size	4.0	4.4	55.4	17.1	30.8	.0037	47.6	46.2	17	14	17.7	12.1	12.80	1.51	1.36	.74	75.2
	10	90			1½	...	0	Pulp—size—alum	4.2	4.5	54.3	16.9	31.1	.0039	53.1	50.2	15	9	12.9	13.0	7.52	1.57	1.39	0	...
	10	90			1½	5	1	Pulp—size—alum—glue	4.2	4.6	54.5	17.6	32.3	.0039	51.8	47.0	16	11	14.6	15.2	7.34	1.74	1.46	.85	85.8
	10	90			1½	5	2	do	4.2	4.6	55.0	17.1	31.0	.0040	52.2	51.0	16	10	13.1	15.1	7.12	1.70	1.43	1.31	66.0
	10	90			1½	B	1	do	4.2	4.5	55.0	17.6	31.9	.0040	54.4	51.4	15	9	13.6	16.3	7.34	1.74	1.51	.75	75.7
	10	90			1½	B	2	do	4.2	4.6	55.5	17.5	31.6	.0042	61.0	52.4	15	11	13.3	16.8	6.82	1.68	1.41	1.07	54.2
Wrapping Paper																								
			100		1	...	0	Pulp—size—alum	4.2	4.7	55.8	55.1	98.7	.0041	106.8	92.5	3428	3045	23.8	19.7	.75	1.07	.94	0	...
			100		1	5	1	Pulp—size—alum—glue	4.2	4.6	55.4	60.4	109.0	.0041	99.8	89.1	2755	2817	28.0	21.1	.73	1.08	.93	.83	84.0
			100		1	5	2	do	4.2	4.6	55.6	60.2	108.2	.0043	96.4	80.0	3820	3100	26.7	20.6	.73	1.14	.96	1.70	85.6
			100		1	A-2	1	do	4.2	4.6	54.9	61.5	112.8	.0041	105.0	77.3	3445	2708	26.5	24.1	.68	1.14	.95	.87	89.0
			100		1	A-2	2	do	4.2	4.6	54.7	62.5	114.1	.0041	96.4	90.8	3035	2625	24.7	21.9	.67	.90	.60	1.50	83.1
			100		1	B	1	do	4.2	4.6	57.1	62.8	110.0	.0042	107.8	90.4	3185	2892	29.2	25.5	.63	1.09	.93	.88	89.0
			100		1	B	2	do	4.2	4.6	54.1	61.8	114.3	.0041	101.2	97.6	2460	2790	23.4	23.4	.60	1.13	.96	1.48	75.2
Comparison of Machine-dried and Air-dried Wrapping Papers																								
			100 F		1	...	0	Pulp—size—alum	4.2	4.7	52.1	58.3	111.8	.0045	122.0	102.1	3467	2532	22.3	19.4	....	...	...	0	...
			100 G		1	...	0	do	4.2	4.7	60.4	86.7	142.4	.0059	156.6	118.2	5322	2710	21.5	23.9	....	...	...	0	...
			100 F		1	5	1	Pulp—size—alum—glue	4.2	4.6	57.3	71.7	125.1	.0049	106.8	87.2	3490	3470	24.2	27.5	....	...	...	.81	81.5
			100 G		1	5	1	do	4.2	4.6	62.3	94.6	151.9	.0062	147.2	112.0	4965	2775	27.8	28.1	....	...	...	.86	86.8
			100 F		1	A-2	1	do	4.2	4.6	55.5	71.0	128.0	.0048	113.6	102.8	3830	3160	25.9	27.6	....	...	...	.88	90.0
			100 G		1	A-2	1	do	4.2	4.6	62.3	92.2	148.0	.0061	151.2	118.0	5010	2510	26.1	27.1	....	...	...	.93	95.2
			100 F		1	B	1	do	4.2	4.6	57.1	72.4	126.8	.0052	118.2	102.4	3270	3030	28.7	27.8	....	...	...	.90	90.9
			100 G		1	B	1	do	4.2	4.6	61.7	93.7	151.8	.0065	145.2	116.4	5882	3848	28.0	24.3	....	...	...	.92	93.6

A Based on weight of pulp and filler furnished.
B See Table 1.
C Special folding endurance tester used, 0.8 kg. tension on test strips.
D Glue solution mixed with rosin size.
E Glue solution mixed with clay.
F Machine dried, not calendered
G Air dried, not calendered.

of glue in the finished paper was determined as follows: The percentages of nitrogen in the various glues were determined by the Gunning[10] method. Similar nitrogen determinations were made on all the papers whether or not glue had been used in their manufacture. Glue retentions were calculated by comparing the net percentages of nitrogen due to glue in the finished papers with the percentage of nitrogen actually furnished to the beater as glue.

In the preliminary machine trials the papers made were tested for color by the Pfund colorimeter[14], for degree of finish by the Ingersoll glarimeter[15], and for opacity by the Bureau of Standards transparency tester[16].

V. Tabulation and Discussion of Data and Tests

1. Preliminary Study

(a) Glue-Jelling Agents.

Laboratory studies indicated that although a smaller amount of aluminum formate than of aluminum sulphate is required to jell a given glue solution, the glue jelled with the formate was neither more insoluable nor more water resistant than the glue jelled with sulphate[17]. Use of the formate gave the highest immediate setting phate[17]. Use of the formate gave the highest immediate setting point of the glue, but when ordinary alum was added to the glue solution and the whole gently heated for a few minutes the setting point was raised to the same degree. Chrome alum gave better results than ordinary aluminum sulphate. The action of the formate was apparently not aided by heating. The water resistance and insolubility of glues jelled with alum were greater than when the same glues were set with aluminum formate. In this respect chrome alum was again superior to the sulphate and formate.

(b) Effects of Drying Temperature.

Hand sheets, in the preparation of which 2 per cent of glue and no rosin size were used, when air dried at room temperature were sized only slightly, to a degree corresponding to the lower limit of slack sizing. Similar hand sheets, dried for one hour in an electric oven with the temperature gradually rising to 60 degrees C. showed only a very slight degree of sizing. The hand sheets dried on an aluminum plate at 110 degrees C., the temperature of the paper machine drying cylinders, were waterleaf (unsized).

(c) Foaming and Glue Retention.

The water supply at the Bureau of Standards is normally very slightly alkaline, having a hydrogen-ion concentration of 7.1-7.3 pH. When glue was added to the beater with the water in this condition, excessive foaming took place in the beater and on the paper making machine, and the retention of glue in the paper was very low, being about 8 per cent of the amount furnished. The addition of sufficient alum to acidify the water so that the pH value approximated 4.5 reduced the foaming materially and increased the glue retention to about 80 per cent for clay-loaded paper and to about 60 per cent for unloaded paper. It should be noted that at the pH value of 4.5 the acidity of the beater water is approximately at the isoelectric point of the colloid glue (for pure gelatin the isoelectric point is at pH equal to 4.7[18]) where the solubility of the material is at its minimum. This difference in the amount of foaming and in the percentage of glue retained was exhibited with glue jelled by alumium formate, alum and chrome alum as well as by unjelled solutions.

(d) Paper-Machine Trials.

The details of the preliminary paper machine trials and tests of the experimental papers are given in Table 2.* These trials indicated that the preliminary jelling of the glue, which is a characteristic feature of the processes mentioned earlier in this report, is not necessary. The retention of glue in the finished papers was as satisfactory with glue solutions as with jelled glue and there were no appreciable differences in the qualities of the respective papers. Papers containing up to 2 per cent of glue showed no tendency to stick to the paper-machine wire, felts, or drying cylinders, but in one trial where 4 per cent of glue was used there was noted a serious tendency to clog the machine wire and to adhere to the other portions of the paper machine.

The papers made without rosin size but containing glue, and dried under ordinary conditions on the machine cylinders were not sized. Papers loaded with crown filler did not show any increase in the degree of sizing when glue was used with rosin sizing, but where clay was used as a filler the glue containing papers were better sized than those made with rosin alone.

When the glue was added directly to the beater either as a jelly or as a solution the retention of filler was practically the same as in papers not containing glue. In two experiments in which the glue solution was mixed with the clay slip before furnishing it to the beater, there appeared to be a definite though small increase in the retention of filler. The retention of crown filler in the papers seemed not to be affected by glue.

For unfilled papers, when the glue was added to the beater at the optimum hydrogen-ion concentration there was a distinct improvement in the bursting strength and folding endurance tests as compared with the tests of similar papers sized with rosin only. In the papers loaded with crown filler there was no change in strength when glue was used. Papers containing clay filler were improved noticeably in bursting strength by the presence of glue. The folding endurance of the clay-loaded papers sized with rosin alone, was too low to determine definitely by the regular tester but appeared to be somewhat improved by the glue.

The papers containing glue possessed an unusual snap and rattle and were firmer and harder than ordinary book papers of this type.

Comparisons of the color, opacity and finish of the different papers showed no advantage in the use of glue.

There was little if any difference noticeable between the effects of the hide and bone glues on the papers.

2. Semicommercial Trials with Glue Solutions

Data regarding the materials used, procedure of furnishing the beater, and the hydrogen-ion concentration, together with the physical and chemical tests of the experimental papers produced in the semicommercial trials with glue solutions are assembled in Table 3. The tests of these papers are so inclusive as to make difficult any specific interpretation of the results. The data are presented in full so that anyone interested in these processes can compare the results obtained with any similar information available.

(a) Writing Paper.

In the two blank runs of sulphite pulp in which neither glue nor rosin size was used, the paper produced was exceptionally strong. When 2 per cent of low grade hide glue was included in the beater furnish, the paper had better handling qualities and rattle and also was harder and firmer than that from the previous trials. The paper was unsized (waterleaf) and there was no appreciable change in the strength of the finished sheets. Trials were then made using one and two per cent, respectively, of rosin size without glue. The ratio of bursting strength to weight and the folding endurance of these rosin-sized papers were lower than the corresponding values of the unsized papers. (See Table

[11] Carson, F. T., Testing paper for permeability to liquids. Paper Trade J. 80, No. 10, pp. 59-62 (March 5, 1925).
[12] Carson, F. T., A new sizing tester for paper. Paper Trade J. 79, No. 17, pp. 44-45 (Oct. 23, 1924).
[13] Griffin, R. C., Technical methods of analysis, Chap. III, p. 65. McGraw Hill Book Co., Inc., New York (1921).
[14] Lofton, R. E., A measurement of the color characteristics of white paper: Bureau of Standards Technologic Papers, No. 244.
[15] Lofton, R. E., The glarimeter and the measurement of the finish of paper: Paper Trade J. 80, No. 7 (February 12, 1925).
[16] Specifications for the transparency of paper and tracing cloth, Bureau of Standards Circular No. 63.
[17] See also Bogue, R. H., Properties and constitution of glues and gelatines, Chem. and Met. Eng. 23, Nos. 1-5, pp. 5, 61, 105, 154, 197, July 7 to August 4, 1920.
[18] Bogue, R. H., The chemistry and technology of gelatin and glue, p. 246. McGraw-Hill Book Co., Inc., New York (1922).

3). Both glue and rosin size were next furnished to the beater; in several trials the relative time of adding the materials was varied and in the later runs different grades of glue were used.

When glue was used without rosin size but little foam was formed during the beating operation and no difficulty was encountered in the other papermaking processes. When glue was furnished to the beater after the pulp and before the rosin size, the addition of the rosin size caused the beater contents to become alkaline. Thereupon the pulp, coated with glue, seemed to puff up and tended to rise to the surface and to run over the sides of the beater. The addition of alum corrected this difficulty. When the rosin size was added after the pulp and followed by the glue a somewhat similar condition developed. The order of furnishing the beater finally adopted was to add the rosin size shortly after the pulp was charged, to follow later with the alum, and to add the glue last, about one hour before the beating was completed. With this procedure the excessive foaming was avoided and no especial difficulties from this source were encountered. The amount of glue retained in the finished paper seemed independent of the order of furnishing providing that the hydrogen-ion concentration of the beater water approximated a pH value of 4.5. Measurements confirmed earlier observations that the foaming was at its minimum at about a pH of 4.5, approximately the isoelectric point of glue, where minimum solubility occurs, from which it appears that the amount of foaming is indicative of the amount of glue in solution in the beater water. An examination of the froth from trials in which excessive foaming occurred showed that it contained much very finely divided fiber and small amounts of glue.

When glue was used with rosin size the strength tests of the papers gave inconclusive results. In most cases the bursting strength was but slightly changed, the tearing strength was somewhat diminished, and the folding endurance somewhat increased. The degree of sizing was frequently improved. Better retentions of glue were obtained with the use of the higher grades, a high grade hide glue giving the best results in this respect, but the differences in the strength characteristics of the papers were not sufficient to indicate any economic advantage in the use of the more costly glues. With all grades of glue, as was to be expected, a larger proportion was retained in the finished paper when 1 per cent was used than when 2 per cent was added.

The papers containing glue seemed harder and firmer than those sized with rosin alone and also had unusual resiliency and rattle. In these intangible characteristics, these glue-containing papers approached the qualities of surface-sized, rag-content papers rather than those of ordinary commercial sulphite papers.

(b) Book Paper.

(1) New Pulp

For the tests on book papers a fiber mixture of equal parts of sulphite and soda pulps was used. In several of the machine trials 20 per cent of clay filler was added. In one trial the glue solution was mixed with the clay before furnishing it to the beater, in the other trials the order of charging materials was pulp-clay (if used) -size-alum-glue (if used). The use of glue seemed to have little effect on the clay retention as indicated by the percentages of ash in the different papers, even in the trial where glue solution was mixed with the clay. The addition of glue to the stock without filler had little effect on the strength and degree of sizing of the paper. When clay was used as filler, however, glue seemed to improve both the strength and the degree of sizing of the finished papers. Both the filled and plain papers were characterized by exceptionally good handle, rattle, and firmness.

(2) Repulped Old Papers

The fibrous material for the remaining book paper tests was obtained from old papers, chiefly made from suphite stock. The removal of the ink from the paper was effected by cooking with soda ash and subsequenty washing the pulp. The excess water was removed by running the repulped material over the paper machine wire where it was collected in a thick moist sheet. The sheet was cut off as it left the machine and was folded into bundles, commonly called "laps," for later use. This moist, reworked stock with the addition of 10 per cent of new soda pulp constituted the pulp furnish for these machine runs.

The addition of glue to this type of paper had no appreciable effect on the strength or degree of sizing but, as noted in the foregoing sections, the papers containing glue were characterized by unusual rattle and good handling properties.

(c) Wrapping Paper

Sulphate (northern kraft) pulp was used for the wrapping paper trials. This pulp required fairly hard beating for sufficient preparation to obtain a well formed sheet. Very little foam was formed during the beating operation and no difficulty was encountered in the other paper-making processes. The finished paper was of very satisfactory quality. The exaggerated effects of minor variations of such properties as the thickness of the sheet on the folding endurance tests of such strong papers made it difficult to interpret the effects of glue on this strength quality. It may be noted, however, that the ratio of bursting strength to weight was consistently higher in the papers containing glue than in those without glue. The degree of sizing was also improved by glue and these kraft papers containing glue were, like the weaker ones, characterized by unusual rattle and handle.

(d) Air Dried Paper

Considerable interest has been shown by paper manufacturers in various processes offered to improve the strength qualities of kraft papers. Some of these processes include the application of glue in one manner or another and therefore a brief comparison was made of air drying and cylinder drying of these papers. In several of the paper-making trials with kraft pulp, sections of the sheets were air dried and tested without being calendered. For comparison, adjoining sections of the same papers were machine dried without being calendered. It should be noted that the air dried papers were noticeably heavier than the corresponding machine dried ones. Whether or not glue had been used in the beater, the air dried papers were stronger and slightly better sized than those dried on the machine cylinders. The ratio of bursting strength to weight was consistently higher in the papers containing glue than in those sized with rosin alone.

VI. Summary and Conclusions

Processes involving the use of aluminum formate to jell glue solutions for sizing paper in the beater have been studied in comparison with the use of aluminum sulphate and chrome alum for setting the glue and with ordinary glue solutions. Different grades of glue, several varieties of pulp (with and without fillers in the case of sulphite-soda book papers) and varying conditions for furnishing the beater have been observed. The use of aluminum formate to jell the glue solutions offered no advantages over aluminum sulphate or chrome alum and the use of ordinary glue solutions proved as satisfactory as the use of glue jelly. Regardless of the form in which the glue was added to the beater, the hydrogen-ion concentration of the beater water appeared to govern the degree of retention of the glue in the finished paper. Maximum retention of the glue was obtained when the pH value of the water from the completely beaten stock was about 4.5. Similarly, it was found that the tendency of the beater contents to foam excessively could be suppressed by controlling the hydrogen-ion concentration through additions of alum, and that the foaming was also at its minimum when the pH value of the beater water was about 4.5. But little difference in the proportion of glue retained in the paper was observed as resulting from varying the order of furnishing the materials to the beater. The procedure of furnishing pulp-filler (if used) -rosin size-alum-glue was adopted as giving optimum operating conditions. Better retentions of the higher grades of glue were ob-

tained than of the lower ones but the improvements in the qualities of the finisher papers did not indicate any economic advantage in using the more costly glues. The waste waters from the paper-making machine were not reused in this investigation but the retention of the glue compared favorably with that of the clay fillers under parallel conditions.

No improvement in the retention of crown filler in papers was obtained by the use of glue. In two runs where the glue was mixed with filler clay, an improvement in the retention of the latter was obtained, in one similar trial there was little change in the clay retention.

In general these studies have indicated that when glue is used with rosin sizing, the strength of papers is frequently increased and the degree of sizing is generally improved as compared with similar papers sized with rosin alone. Regardless of the form in which the glue was added to the beater, none of the glue-containing papers made without rosin and dried under ordinary paper machine conditions were sized to a measurable degree. Due to the irregularities in the results of the tests for degree of sizing of these experimental papers some doubt has arisen as to the applicability of the test methods ordinarily used for rosin-sized papers to those containing glue. In the curl method particularly it has been suggested that the extraordinary snap and resiliency of the glue-containing papers may affect the results of the sizing test.

All of the experimental papers, whether or not glue was used in their preparation, were characterized by their excellent formation and appearance. The chief influence of the glue on all the types of papers studied seemed to be to improve certain rather intangible properties, the firmness and hardness of the papers were increased and they possessed exceptional rattle and handling qualities. The improvement in these characteristics as well as in strength and degree of sizing were especially noticeable in the book papers containing clay filler.

I. P. Employees Buy Stock

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., January 15, 1927.—Employees of the various mills of the International Paper Company, in the Glens Falls area took full advantage during 1926 of the opportunity to purchase stock in the corporation. According to figures just given out the amount of stock purchased on the installment plan during the past year by workers in the Glens Falls, Fort Edward, Corinth Ticonderoga mills exceeds by a considerable margin the 1925 record. The increase in stock purchases is a good indication of the improved working conditions at the I. P. mills.

Approximately twenty per cent of the total number of I. P. employees participating in the stock purchase plan during the past year are from the plants in and around Glens Falls. The totals for the Glens Falls, Corinth, Fort Edward and Ticonderoga mills during the year show 493 employes have purchased 1292 shares of stock. During 1925, 1,067 shares were purchased by 537 employes of the mills in the four places.

Employees of the Glens Falls mill to the number of 141 purchased 289 shares of stock. In 1925 there were but 71 subscribers at the local mill, these taking 175 shares. The Bureau of Tests, also in this city, during the past year had thirteen subscribers for sixty shares. Fourteen employes of the Sherman Island hydro-electric plant took 38 shares as compared with six subscribers and twenty- two shares during 1925.

The 1926 record for the Fort Edward mill shows 151 stock purchasers taking 307 shares. 112 employees purchased 272 shares in 1925. The Hudson River Mill at Corinth during the year had 125 employes subscribing for 419 shares as compared with 95 purchasers of 300 shares in 1925.

The Lake George Mill at Ticonderoga during 1926 had a record of 24 subscribers for 65 shares of stock and the Ticonderoga Pulp and Paper Company's mill had 15 employees buying 113 shares. The 1925 record for the former mill was 20 subscribers for 64 shares and for the latter plant 21 buyers of 147 shares.

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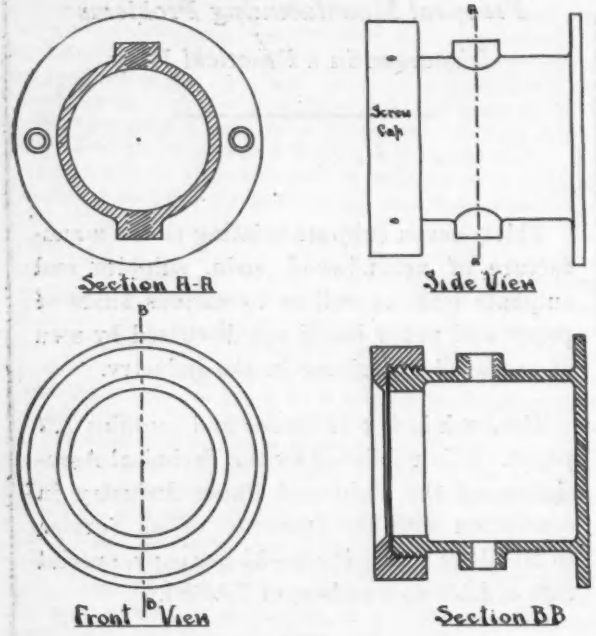
The Penescope -- A New Penetration Tester

By Allen Abrams, Rothchild, Wis.[1]

Summary

1. The importance of penetrability in testing paper is emphasized by the Bureau of Standards statement that "of the various properties of paper, permeability to liquids ranks perhaps next to strength in significance and bearing on the utility of the material." Also, that for the internal sizing, "a test of the rate at which water penetrates into paper is considered the most logical and useful method of measurement."[2]

2. The Penescope is described as a simple, convenient instrument for holding samples of paper so that they may be observed and tested for permeability to water, moisture, oils and solutions of electrolytes.[3]



The Penescope

Figure 1

Construction of the Penescope.

3. The universal application of the instrument in such testing is brought out by description of the types of tests and methods of operation which may be performed with it.[4]

Importance of Penetration

The Bureau of Standards has performed a most valuable service in their exhaustive study of some 38 different methods for testing the sizing of paper. In their report they discuss the four types of tests, including, a, Ink, b, Interacting chemicals, c Electrolytic, d, Water. Pointing out the necessity for distinguishing between external and internal sizing the Bureau arrives at the conclusion that the rate of penetration of water is the best method for testing internal sizing; and that their dry-indicator and curl methods give the most consistent and dependable results.

Several other excellent papers by the Bureau[5-6] discuss water and moisture-proofing, grease-proofing; suggest new methods of testing and conclude[5] "It can be safely assumed that a paper which is relatively waterproof in the above sense (i.e. prevents moisture from gaining access to substances AA.) is also moisture proof and that the more severe water resistance test is the safer procedure in nearly all cases involving waterproofed paper."

Just as a difference exists between moisture and waterproofing, so for the purpose of this article we may classify liquid penetration as of two kinds—

(1) *Complete* penetration in which the liquid travels from the exposed surface of the paper and appears as liquid on the unexposed surface. This penetration is largely due to capillarity in the fibers, which is dependent on sizing; and it is not to be confused with penetration due to dirt or holes in the sheet—although it is ofter important to take these into consideration.

2) *Partial* penetration in which the liquid goes only part way into the sheet. In the case of liquids with high viscosity or low vapor pressure action may cease at this point; but with volatile, non viscous liquids such as water, penetration into the sheet is then balanced by "breathing" or evaporation from the exposed face. This rate of evaporation then forms a valuable method of testing the resistance of the sheet.

Both types of penetration are of great practical importance. Complete penetration tests are made with water on such sheets as test liner where it is important that the water should not soak through in less than minimum time; in grease-proof sheets where penetration is tested with certain organic liquids; in can stock to test the resistance of the sheet to the lactic acid of cottage cheese. Partial penetration applies to writings where the paper is required to resist ink spread; blottings where rapid penetration is essential; coating and dipping processes where absorption of a certain quantity of the materials is desirable.

In fact the field is so broad that penetrability of paper is concerned not only with internal sizing but with surface coating, formation, density, hydration and the like.

Description of the Penescope

Having in mind the great importance of penetrability and the fact that various methods have been used for measuring this property, it is apparent that no other type of equipment or testing should be advanced unless it offers some simplification and improvement.

The Penescope has been devised to afford simple, accurate, visual methods of testing penetrability. It makes use of the methods devised by the Bureau of Standards and of new methods made available by its peculiar type of construction.

Reference to the occompanying drawing (Fig 1) shows the cast brass chamber which is to be filled with the testing liquid and the outer rim of which has a plane, machined surface; the hollow screw cap (into which the sample—up to ⅛ inch thickness—is inserted) with a plane, machined surface inside; and the openings above and below, threaded for ⅛ inch standard pipe connections.

Methods of Connecting the Penescope

As the instrument may be used on a variety of tests, several general methods for connection will be described. Modifications of these methods permit of simple arrangements for routine and research tests on penetrability, swelling, evaporation and the like.

(1) The simplest method (Fig. 2, No. 1) is used where occa-

[1] Member TAPPI.
[2] Testing Paper for Permeability to Liquids.—F. T. Carson, Paper Trade Journal 80, 10, p. 59 (March 5, 1925).
[3] Paper Trade Journal 83, 24, p. 45 (Dec. 9, 1926).
[4] Bureau Tech. Paper No. 326, "Measurement of the Degree of Sizing of Paper," F. T. Carson (Sept. 11, 1926).
[5] Testing Waterproofed Paper, F. T. Carson, Paper Trade Journal 79, 10, p. 48 (Sept. 4, 1924).
[6] Recent Paper Research of the Bureau of Standards, B. W. Scribner, Paper Trade Journal 81, 13, p. 51 (Sept. 24, 1925).

sional tests are to be made, where different liquids are to be used and where only complete penetrability is to be observed.

The tester is fastened to a convenient support, a brass petcock is screwed in the bottom opening and in the top opening is inserted a loose-fitting funnel through which the liquid may be poured.

A sample of paper 2½ inches in diameter, is cut out with scissors or a special cutting die and is then inserted in the hollow cap of the tester. With very thin papers a rubber gasket is used but with thicker samples none is required. The cap is screwed tight against the chamber of the tester, leaving a 2 inch circular section (3.14 sq. in.) exposed in a vertical position. Then 140 cc. of the testing liquid is introduced at a certain temperature and the sample is allowed to stand until liquid penetration is observed on the exposed face. The elapsed time is noted.

(2) Where partial penetration and evaporation are to be studied the foregoing is modified as follows (Fig. 2, No. 2). A glass tube about 20 inches long and 5 mm in diameter is attached with rubber tubing to a close nipple in the upper opening of the chamber. The tube is graduated or is backed with a scale showing the calibration in cc. (1 inch length is approximately 0.5 cc). Over the top of the tube is placed a test tube to prevent evaporation.

A reservoir of water at constant temperature (with or without float connection) is connected to the bottom petcock.

The sample is inserted, the tester is filled with liquid in about 10 seconds; and the liquid is allowed to rise to a fixed level in the tube. The reservoir connection is shut off quickly, a reading is taken immediately and then at intervals of from one to ten or more minutes. The drop in liquid level plotted against the elapsed time gives a curve from which the characteristics of the paper may be observed.

(3) Where it is desired to make frequent routine tests for partial or complete penetration using one liquid, such as water, a permanent connection is made through the bottom opening with a three way cock (Fig. 2, No. 3). The top opening is fitted with a glass tube or an overflow pipe, the former when measuring partial penetration, the latter with complete penetration. One tester may be used alone or any number joined up parallel.

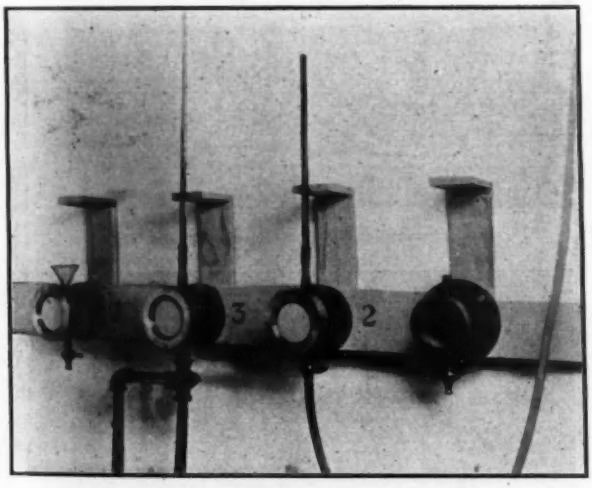


FIG. 2
Methods of Attaching and Using the Penescope.

After the sample has been inserted, the three-way cock is opened to allow liquid to fill the chamber. If complete penetration only is to be observed the liquid is allowed to overflow into the waste pipe and the cock is then turned to a neutral position. If partial penetration is to be observed the liquid level is raised to a fixed point in the glass tube, the cock turned to a neutral position and readings taken at intervals.

When the test has been completed, the chamber is emptied by turning the three-way cock to connect with the waste-pipe.

Penetration Tests Using Water

The Penescope has been used for a long time on routine tests for complete penetration on various grades of boards. It offers advantage over the old "bucket" test in being simpler, more positive and in being applicable to the testing of boards which cannot be formed into buckets. A battery of testers (Fig. 3) is set up at the end of the paper machines. Samples are taken as frequently as desired, cut with a die, inserted in the tester, the tester filled with water and occasional observations made along the battery to note penetration. Excellent results are obtained by this method.

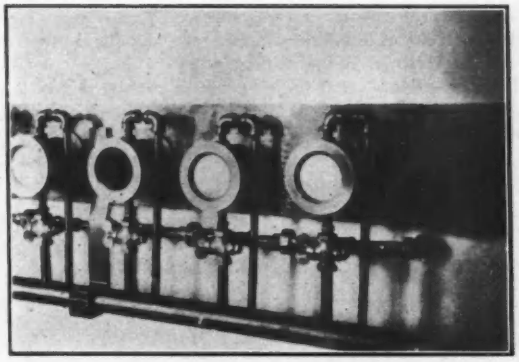


FIG. 3
A Battery of Penescopes Testing Water Penetration on Test Liner.

Considering now the subject of partial penetration, it is evident that when the Penescope is filled with water as described in the second method, the resultant drop in liquid level may be due to several causes—

(1) Bulging of the sheet due to hydrostatic head.
(2) Liquid absorption into the interstices of the sheet.
(3) Swelling caused by liquid absorption.
(4) Evaporation from the unexposed face of the sheet.

In order to provide for study of these and other phenomena the sample may be covered with any of the following equipment—

Method	Covering Over Sample	Used for Studying
1	None	Complete penetration with various liquids as water, oils, solvents, acids. Partial penetration, including drop due to hydrostatic head, absorption, swelling, evaporation. Moisture penetration, using wet sawdust method.
2	Rubber Diaphragm	Drop in liquid level due to head, absorption, swelling but not evaporation.
3	Metal or Glass Diaphragm	Drop due to absorption only.
4	Wire net soldered in lid	Drop due to absorption and evaporation only.
5	Ground glass coated with alcoholic sugar-dye mixture.	Observation of moisture penetration.
6	Ground glass covered with thin bond	Observation of grease penetration.

Returning now to the drop in water level, a study of the factors was made by using samples of 160 pound bleach lined board for the investigation.

The bulging due to hydrostatic head alone was observed by inserting paraffined samples in the tester, filling with water and noting the drop in level after ten minutes. The following data were obtained with this and other sheets.

Kind of Sheet	Drop in Level (cc./10 minutes) Paraffined	Unparaffined
160-lb. Bl. Lined Bd.	0.20	1.60
34-lb. Bond	0.20	1.32
25-lb. Amber	0.19	...

Temperature—25° C. Relative Humidity—35%.

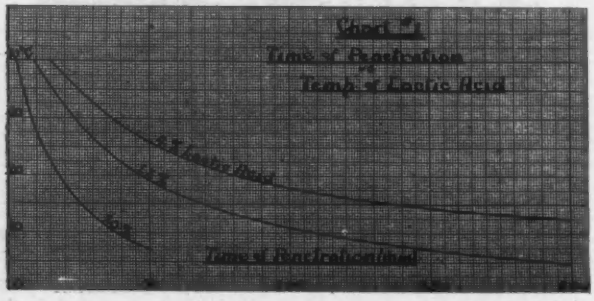
These data indicate that bulging is approximately the same on these sheets and that it is a relatively small portion of the total drop.

The sheet was then tested according to arrangements 1, 2, 3, 4 in order to differentiate between the factors causing the drop in level. At the end of 16 hours the data shown in Chart 4 gave the following distribution.

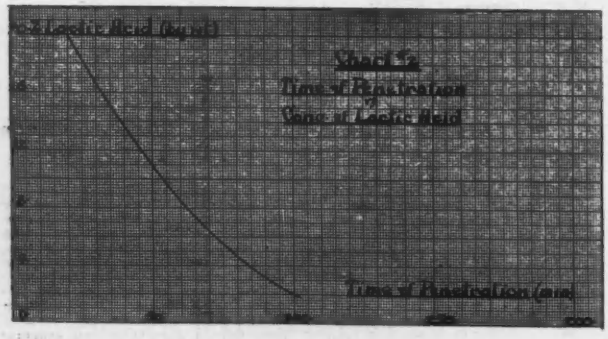
	Drop in Level (cc.)	% of Total Drop
Bulging due to hydrostatic head	0.20	4.
Water absorption *	0.36	8.
Swelling due to water absorption	1.54	34.
Evaporation	2.40	54.
Total	4.50	100.

It is to be noted that in all cases most of the initial drop (due to bulging and swelling) takes place in the first hour. The reason for the greater drop, using the rubber diaphragm, is not accounted for as similar results were obtained on a check test. The fact that some drop occurs when the sample is covered with wire net indicates a slight swelling in the meshes. The slightly lower rate of evaporation on the same sample is probably due to the reduction in free area caused by the netting.

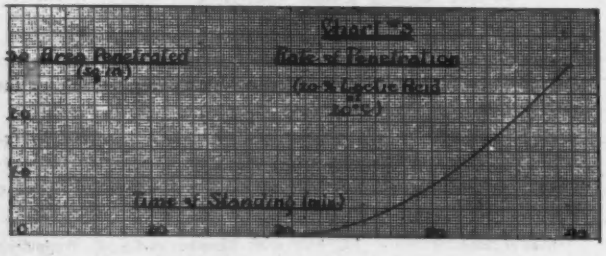
It seems probable that the evaporation rate by this method may be taken as a means of determining the "breathing" of boards to be used for packages. The Penescope can be set in a room at constant temperature and humidity (as for example 25°C and 35 per cent relative humidity, such as used in these tests. By taking an



The Lactic Acid Test.



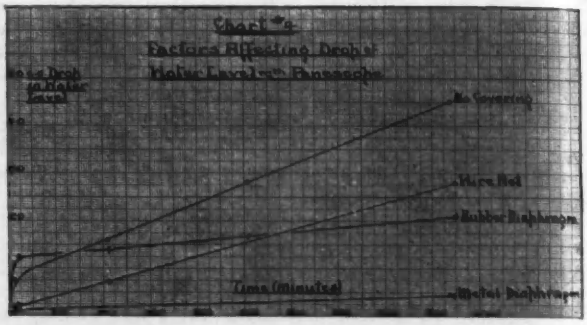
The Lactic Acid Test.



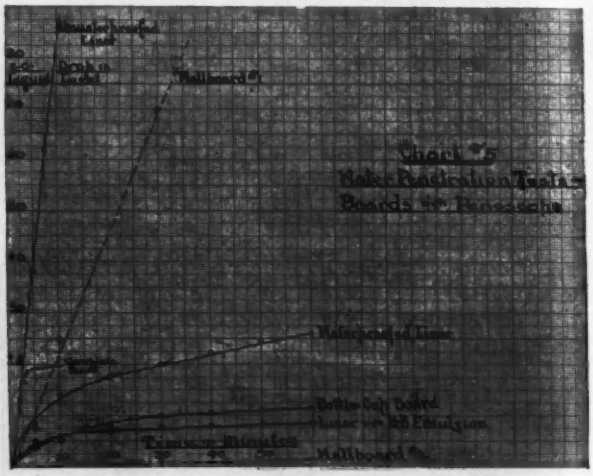
The Lactic Acid Test.

initial reading one hour after the sample is exposed and then at the end of subsequent hours a "penetration coefficient" might be worked out as "grams of moisture evaporated per square inch surface per 24 hours, per inch thickness."

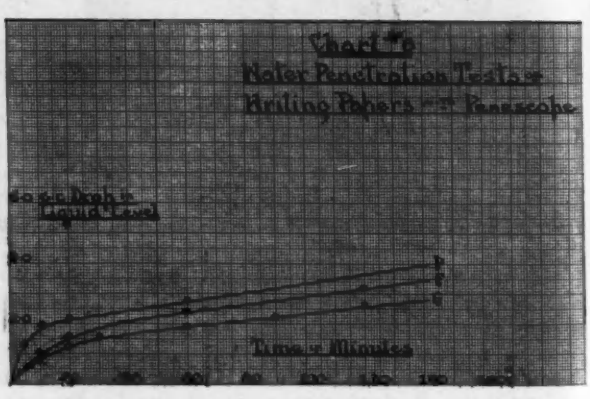
A. R. Harvey has proposed a method for studying moisture penetration[6] which apparently offers good results. However, it involves the use of considerable equipment. We have not been able to check our evaporation results by his method but have compared them with the moisture loss through the same board when it was exposed for 24 hours to wet sawdust placed in the Penescope. The sawdust was 28 per cent bone-dry, the room temperature 25°C. and the humidity 35 per cent.



Factors Affecting Drop of Water Level with Penescope.



Water Penetration Tests on Boards with Penescope.



Water Penetration Tests on Writing Papers with Penescope.

The loss in weight in 24 hours by the water method, due to evaporation, was 4.70 grams and by the sawdust method 1.89 grams; indicating that the former rate was about 2.5 times as much as the latter.

Additional tests were made on samples of various kinds of board. The curves, shown in chart 5, differentiate satisfactorily between

* This was checked by a weight determination.

[6] A Method of Testing Board for Moistureproofness. Paper Trade Journal 78, 26, p. 50 (June 26, 1924).

them. In the case of the wall boards shown a striking difference in water penetration may be seen.

Samples of writing paper, having slightly different ink tests, were exposed in the Penscope. The results, shown in Chart 6, grade the papers in the same order as the ink test.

Further tests were then made to determine the applicability of the Bureau of Standards dry-indicator method[3]. This method, together with the curl test, is considered by the Bureau to "give the most consistent and dependable values for the degree in internal sizing." Based on the Bureau's work, the following modified method has been worked out and is proposed for use in the Penescope:

Powdered sugar and an alcohol-soluble dye, such as safranin, are mixed in proportions of 50 to 1. This mixture is added to alcohol until the alcohol is saturated and an excess of solids present. A ground-glass plate 2½ inches in diameter is coated on the rough side with the mixture and then dried.

The sample of paper is laid next the ground glass side. Both are inserted in the Penescope, with the smooth side of the glass outermost and with a rubber gasket to take up the pressure. Water is added and the sample is allowed to stand until the transuded moisture causes the sugar-dye mixture to dissolve and give a characistic color.

The method has proven to be convenient, quick and reliable. The accompanying photograph (Fig. 4, No. 3) brings out some of the retails. While glass windows have been satisfactory, tests are being made with other transparent materials to find one less fragile.

Lactic Acid Method

This method has been utilized for the examination of board used in cottage cheese containers. Such a board must resist the action of the lactic acid in cheese. Certain physical tests (including formation, density conductivity of potassium chloride solution, water absorption) failed to give results comparable with the action of cheese.

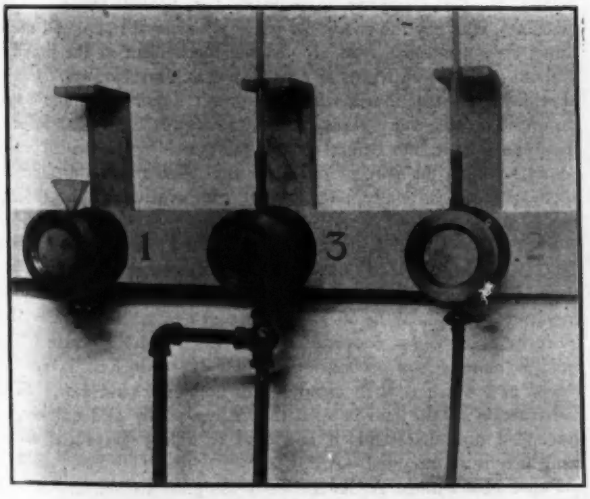


FIG. 4

Penescope Tests. 1. Greaseproof Test. 2. Lactic Acid Test. 3. Moisture Penetration Test.

Since the cottage cheese was uncertain in test and required up to 60 hours for penetration, an investigation was made with solutions of lactic acid. From the data shown in Charts 1, 2, 3, the following control method was evolved:

The sample of paper or board is brushed lightly on the face with 0.1 per cent methyl orange solution, dried moderately and fastened in the tester. Then 140 cc of 20 per cent lactic acid (adjusted by specific gravity) are added and maintained at 20° C.

As the acid penetrates the methyl orange becomes bright red. When six spots at least the size of a pin head are observed the time of penetration is taken. When the temperature and concentration of acid are kept constant the method gives excellent results, comparable with cottage cheese penetration but much more certain and rapid.

Grease-Proofing Tests

Tests for grease proofness are not sufficiently standardized to allow of any definite method being cited. However, such tests are

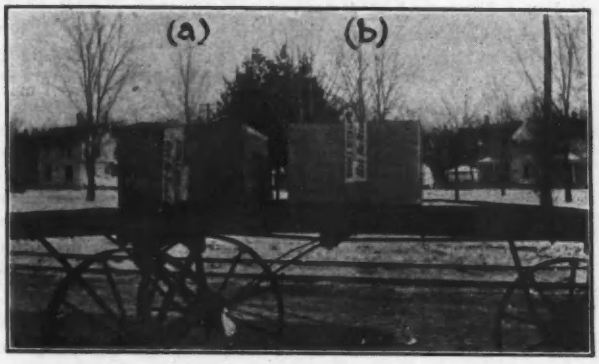


FIG. 5

Contrast between containers made from test liner which penetrates (a) slowly, (b) rapidly.

performed satisfactorily in the Penescope, using turpentine, cottonseed oil, peanut oil and the like. As in other concentration tests the temperature should be controlled.

A very sensitive and satisfactory method consists in using a 2½ inch circular glass window on which are laid a sample of white bond and then the grease proof. These are inserted in the Penescope, using a rubber gasket and placing the greaseproof sample toward the champer. The tester is filled with turpentine and the time noted when spots begin to appear on the white bond.

This gives a clear test as shown in the accompanying photograph (Fig 4, No. 1).

The results and methods pointed out in the foregoing article indicate that the Penescope is adapted to a variety of tests for sizing, greaseproofing and problems dealing with the penetration of moisture, water and other liquids into papers.

The particular methods to be employed will depend on the purpose for which the paper is to be used. Consequently, general principles are laid down on the basis of which these methods may be worked out.

(Note: The assistance of H. H. Kern in designing the tester and of Charles Thyberg in the experimental work is gratefully acknowledged.).

Sewall Timber Cruisers Busy

[FROM OUR REGULAR CORRESPONDENT]

OLD TOWN, Me., January 17, 1927.—The James W. Sewall office, Timber Cruisers and Foresters of Old Town, Maine, reports crews out in Newfoundland, Quebec, Nova Scotia and Maine. This concern cruised 2,744,000 acres during 1926, and 1927 is opening up well.

Joseph D. Latno is in charge of the present work in Quebec; H. W. Hussey of that in Newfoundland and B. C. Marsh in Nova Scotia. All are accompanied by various cruisers and engineers, from the home office.

Mr. Sewall expresses himself as especially pleased with the repeat orders for work which came in last year. Two large companies employed his men for the third consecutive year; another has used them for nearly five years; another, which employed them nine years ago, returned for similar work in 1926. He feels that such continuance of employment is a sign of satisfactory service rendered.

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts of Literature of the Technical Association of the Paper Industry

Clarence J. West, Chairman

Machinery

Paper Slitters. J. A. Cameron and R. McC. Johnstone assignors to Cameron Machine Co. U. S. pat. 1,570,939, Jan. 26, 1926. In order to change the width of sections into which a web is slit without loss of time and of material two sets of score cutters are provided, mounted on a suitable framework with two arms (one for each set of cutters) which are pivotally supported on a common shaft. While one group of cutters is in operation the other group may be set for slitting the main web into different widths, and, when it is required to change over, the frame supporting the cutters is turned in its bearings to bring the second group of cutters into operation against the backing roll, while the first group is thrown out of engagement with the backing roll. This can be done without breaking the main web or even stopping it.—A.P.-C.

Paper Slitter. J. A. Cameron and R. McC. Johnstone assignors to Cameron Machine Co. U. S. pat. 1,570,940, Jan. 26, 1926. The main object and feature of the invention is to adapt to a shear-cutting type of slitter the broad features of invention disclosed in U. S. pat. 1,570,939, for rapid changing of the width of sections into which a web is slit when using a score cut type of slitter. The slitting machine has two or more sets of slitting elements, one set consisting of a grooved drum and a group of shear cutting elements, and the other set consisting of preferably the same grooved drum and another group of shear cutting elements. The two sets of shear cutting elements are mounted in much the same way as the two groups of score cutters in the previous patent. In order to be able to adjust the inactive group with respect to the grooves of the backing drum a spacer bar is provided which is grooved to correspond with the grooves of the drum and against which the idle cutters can be adjusted while the machine is running. The change in the width of the sections is carried out as described in the previous patent.—A.P.-C.

Method of Spacing Cores on a Slitter Shaft. R. McC. Johnstone assignor to Cameron Machine Co. U. S. pat. 1,573,613, Feb. 16, 1925. In order to obtain proper lengths and spacing of the cores for the finished rolls into which the jumbo roll is to be slit and rewound, a long core of the same length as the jumbo roll is secured to a winding shaft and placed in a core cutting machine in which the cutters are spaced to correspond with the slitters of the slitting and winding machine. The shaft with the divided cores is then placed in the rewinder without disturbing the cores. The cuttng of the original long core can be carried out in the slitter and winder itself, but the use of a separate core cutter is preferable.—A.P.-C.

Paper Cutter. J. E. Mulroney. U. S. pat. 1,572,617, Feb. 9, 1926. The invention provides various mechanical features for enabling the paper to be accurately placed in position for cutting and released and handled with facility and safety by the operator during the cutting and trimming operation, for enabling the clamp to be automatically moved into and locked in and released from clamping engagement with the paper, for enabling the knife to move at the desired angle with respect to the paper and the clamp when the latter is in clamping position, and for enabling the paper to be moved into and out of position to be cut or trimmed without the necessity of the operator placing his hands in a dangerous position with respect to the knife in placing or removing the paper.—A.P.-C.

Method of and Means for Cutting Paper. S. F. Damm assignor to Niagara Wall Paper Co. U. S. pat. 1,573,813, Feb. 23, 1926. In cutting or partly cutting wall paper borders along the edge bounding the pattern, which is generally accomplished by pressure only, much better results are obtained if a sliding action is produced beneath the work piece when the cutting knife is brought in contact with it, and at the same time the cutting edge is not dulled so rapidly. According to the invention this result is obtained by driving the platen roller at a different peripheral speed from the cutting roller. The peripheral speed of the platen roll may be either greater or less than that of the paper, and may be either in the same or in the opposite direction.—A.P.-C.

Receiving Device for Rotary Paper or Pasteboard Cutters. H. Bobst assignor to Société Anonyme Marinoni Machines et Matérial pour l'Imprimerie et les Industries Annexes. U. S. pat. 1,569,256, Jan. 12, 1926. The invention provides for one or more sets of gripping devices which are so disposed that each sheet or band is seized by one or more of the gripping devices as it issues from the slitter, and the linear velocity of the gripping devices is adjusted to be equal to that of the paper as it leaves the slitter. In this way curling or rolling of the strips is prevented between the slitter and rotary cutter.—A.P.-C.

Paper Cutting Machine. C. Seybold. U. S. pats. 1,575,648 and 1, 579, 649, March 9, 1926. No. 1,575,648., The object of the invention is to provide a construction for the application of the pressure required for holding the piles of paper to be cut or trimmed, in any of the ordinary types of power operated paper cutters, in which compression springs may be utilized for the application of the necessary clamping pressure, the later being automatically controlled to vary the pressure in proportion to the height of the pile, a moderate pressure when the pile is low and automatically increasing with the height of the pile. No. 1,575,649, relates to the clamping mechanism for power paper cutting machines, whereby the clamp for paper piles may be actuated under direct spring pressure from the driving mechanism of the machine without the intervention of any friction clutch mechanism., It also provides a construction in which the power required for the application of the necessary pressure is automatically controlled to vary in proportion to the height of the pile; and by means of compound leverage the power applied is multiplied many times in its application to the paper pile, so that comparatively light springs can be used.—A.P.-C.

Paper Slitter. H. L. Kutter assignor to The Black-Clawson Co. U. S. pat. 1,584,868, May 18,1926.—The slitter, which is of the shear cut type and adapted to cooperate with a revolving knife, consists of a circular metal band, the edges of which are bevelled to form knife edges cooperation with the revolving knife. The band is mounted on an expansible hub over which it is readily placed and which is then expanded to hold the band fast. The construction of the hub is such that it can easily and quickly be assembled and disassembled and that it tightly grips the shaft on which it is mounted.—A.P.-C.

Paper Mill Pump. A. X. Kennedy assignor to W. A. Riddell. U. S. pat. 1,583,978, May 11, 1926.—The pump comprises a casing having a single bearing on one side and a suction pipe at the other side, and a shaft is journalled in the bearing and extends into the suction pipe. The shaft carries an impeller inside the pump casing, while near the end of the shaft in the suction pipe there are one or more propellers at a fixed distance from the impeller. When several propellers are used an outboard bearing for the shaft is provided. The propeller agitates the paper stock and delivers it in a horizontal column equal to the distance between the propeller and impeller, forcing it into the eye of the impeller. It is claimed that pulp can be successfully handled at a consistency of up to 7 per cent.—A.P.-C.

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Conducted by THOS. J. BURKE, C.A., Sec-Treas

Exempt Corporations Under the Federal Income Tax Laws*

By Fred F. Bullock

Listen in at a gathering of business men, of property owners, of governmental officials, or of the common every-day members of society who ultimately are supposed to foot all the bills, and it won't be long until you hear the conversation turn to taxes or to cost of government.

Read the newspaper notices of addresses delivered at public meetings, note the titles of articles appearing in magazines or newspapers look over the shelves of bookshops and libraries and you will be surprised how often taxation or cost of government are the themes discussed.

Why all this popular discussion of such dry and ordinarily uninteresting subjects? Speakers and writers alike attempt to supply what will meet with the acclamation of their auditors so we must assume that the reading and listening public has more than a passing interest in these matters. We must then look further and inquire into the state of mind of the average American citizen. What do we find? Simply this—that practically every man and woman finds that it takes an increasingly large income to meet the financial demands made upon him or her, and that of all the expenditures he or she must make the one which is most irksome the one whose value is least realized—and that is —taxes.

Without entering into a discussion of the benefits which taxes purchase or as to the justification for the rapidly rising cost of government (and cost of government determines the size of the tax bill) let us make our connection with the subject of this article.

Students of economics are unanimous in the conclusion that one of the most poignant causes of the increasing and illy distributed tax burden is "exemptions." By this we mean the practice of exempting or relieving certain individuals or institutions from the burdens of taxation which the ordinary individual and the ordinary institution is required to pay. From practically every state in the Union the cry is heard that equality must prevail and that every taxpayer shall bear an equitable portion of the load.

The character of the tax exemption granted by our several states and the manner in which they are abused we cannot stop to discuss here, except to say that they consist of such classes of property as churches, private schools, growing crops, property of soldiers and sailors, cemeteries, first mortgages on land, bonds or notes of certain types, etc., etc.

Keeping in mind that most, if not all, of our states have their own pet tax exemptions, let us turn to our Federal income tax laws and see what they have granted in the way of tax exemptions. We are all familiar with the exemptions granted to individuals in the form of interest on Liberty bonds, etc., so we will not stop to consider that phase of the subject, but will proceed to the consideration of the privileges granted to organizations or corporations as set forth in Section 231 of the Revenue Act of 1926, and in prior laws.

Character of an Income Tax

Before proceeding to a discussion of the various exemptions, perhaps it will clarify our thought if we briefly consider what kind of a tax an income tax is and what it really covers, as indicated by decisions of the Federal courts.

"The income tax imposed by the Act of 1865 was not directed but an excise or duty. Springer v. U. S. (1881) 102 U. S. 586.

"It was not the intent of the framers of the constitution that a tax should be considered direct which could not be apportioned equitably. The income tax imposed by Sec. 120 as amended, Act of 1886, could not be apportioned equitably therefore, it was not a direct tax but a duty or excise." Pacific Ins. Co. v. Soule (1869) 7 Wall 433.

"The tax imposed by Sec. 38, Act of 1909, was not a direct tax on the franchise or the property of the corporation but an excise tax on the privilege of doing business in a corporate capacity." Flint v. Stone Tracy (1911) 220 U. S. 107.

The estate tax acts of 1916 and 1917 imposed an excise or duty and not a direct tax. The tax levied was on the privilege of transmitting property at death.

Constitutionality of Tax Exemptions

The right of Congress to grant tax exemptions to certain classes of companies has been carried to the Federal courts in several instances, the claim being made that the word "uniform" as used in Art. 1, Sec. 8, Cl. 1 of the Constitution prohibited such discrimination. In this connection the courts have legalized the pratice in the following decisions:

"The uniformity required by the Federal constitution in the laying of excise taxes is a geographical uniformity."—Flint v. Stone Tracy Co. (1911), 220 U. S. 107.

"The uniformity required by Sec. 8, Art. 1, of the Federal constitution is a geographical uniformity. La Belle Iron Works v. U. S. (1921), 256, U. S. 377.

"The uniformity required by the constitution is a geographi-

* From The National Income Tax Magazine.

cal uniformity hence the exemption of a part or all of the income of certain designated persons, classes, and corporation, did not render the Act of 1913 unconstitutional."—Brushaber v. U. P. R. R. Co. (1916), 240 U. S. 1.

"The tax imposed by Sec. 38, Act of 1909, which differentiated between certain classes of corporations and individuals by exemption some was uniform within the meaning of the federal constitution, that requirement being a geographical uniformity."

History of Tax Exemptions

Let us now review the development of the practice of granting exemptions.

The first instance of an exemption in our Federal income tax is found in the Act of 1864, which contains a provision reading as follows:

"Nor shall the portion of premiums returned by mutual life insurance companies to their holders be considered as dividends or profits under this Act."

The Act of 1870 contained the following:

"Provided that the money returned by mutual insurance companies to their policy holders and the annual or semi-annual interest allowed or paid to the depositors in savings banks or savings institutions, shall not be considered as dividends."

Considering these first two exemptions in the light of the court decisions quoted above, it seems that they both indicated an intention of Congress to exempt from taxation the profits from two kinds of business, that is, profit institutions; one on the ground that its operations were confined to its members, and the other apparently as an encouragement to the habit of thrift or saving.

In the next income tax law, of 1894, we find a new class of exemptions created as indicated by the following:

"That nothing herein contained shall apply to corporations, companies, or associations organized and conducted solely for charitable, religious, or educational purposes, including fraternal beneficiary societies, orders, or associations operating upon the lodge system and providing for the payment of life, sick, accident, or other benefits to the members of such societies, orders, or associations and dependents of such members, nor to the stocks, shares, funds, or securities held by any fiduciary or trustee for charitable, religious, or educational purposes."

This same Act (1894) also added another class of business organization which operates for the benefit of its own members:

"Nor to building and loan associations or companies which make loans only to their shareholders."

It is interesting to note that, although the 1894 law again encourages the thrift habit by exemption saving institutions, it now definitely provides that such saving institutions must be operated on a purely mutual basis and even goes so far as to limit the amount of individual deposits. This act also very carefully indicates the qualifications which a mutual insurance company must possess.

The provisions of this act relating to savings institutions and mutual insurance companies are as follows:

"Nor to such savings banks, savings institutions or societies as shall, first, have no stockholders or members except depositors and no capital except deposits; secondly, shall not receive deposits to an aggregate amount, in any one year, of more than one thousand dollars from the same depositor; thirdly, shall not allow an accumulation or total of deposits by any one depositor, exceeding ten thousand dollars; fourthly, shall actually divide and distribute to its depositors, ratably deposits, all the earnings over the necessary and proper expenses of such bank, institution, or society, except such as shall be applied to surplus; fifthly, shall not possess, in any form, a surplus fund exceeding ten percentum of its aggregate deposits; nor to such savings banks, savings institutions, or societies composed of members who do not participate in the profits thereof and which pay interest or dividends only to their depositors; nor to that part of the business, of any savings banks, institution, or other similar association having a capital stock, that is conducted on the mutual plan solely for the benefit of its depositors on such plan, and which shall keep its accounts of its business conducted on such mutual plan separate and apart from its other accounts.

"Nor to any insurance company or association which conducts all its business solely upon the mutual plan, and only for the benefit of its policyholders or members, and having no capital stock and no stock or shareholders, and holding all its property in trust and in reserve for its policyholders or members; nor to that part of the business of any insurance company having a capital stock and stock and shareholders, which is conducted on the mutual plan, separate from its stock plan of insurance, and solely for the benefit of the policyholders and members insured on said mutual plan, and holding all the property belonging to and derived from said mutual part of its business in trust and reserve for the benefit of its policyholders and members insured on said mutual plan."

The exemption provision of the Act of 1909 were very brief and did not mention either mutual insurance or mutual savings banks. The entire section reads as follows:

"Provided, however, that nothing in this section shall apply to labor, agricultural or horticultural organizations, or to fraternal beneficiary societies, orders, or associations operating under the lodge system, and providing for the payment of life, sick, accident, and other benefits to the members of such societies, orders or associations, and dependents of such members, nor to domestic building and loan associations, organized and operated exclusively for the mutual benefit of their members, nor to any corporation or association organized and operated exclusively for religious, charitable, or educational purposes, no part of the net income of which inures to the benefit of any private stockholders or individual."

Beginning with the Act of 1913 the various exemptions have been classified in a uniform manner and since 1916 the classification has remained practically the same although, of course, changes in nomenclature have been made and changes made in the organizations included in the several classifications.

For purposes of discussion all of the exempt organizations can be listed under two headings; first, those which are actually engaged in business and yield a profit for or render a service to their members but whose operations are conducted on a mutual basis, and, second, those which are organized not from motives of profit or personal gain but to engage in charitable, educational, social, recreational, or similar activities. These groupings would be as follows:—

Mutual Business Organizations: Mutual Savings Banks: Domestic B. & L. Associations; Co-operative Banks; Cemetery Companies; Mutual Hail Insurance, Cyclone Insurance, Fire Insurance, Casualty Insurance, Ditch Companies, Irrigation Companies; Co-op. Telephone Companies; Benevolent Life Insurance Companies; Benevolent Casualty Insurance Companies; Farmers or Fruit Growers Buying or Selling Agencies.

Charitable, Educational, Social, Recreational, and Similar Organizations:— Labor, Agricultural, and Horticultural; Fraternal Benefit; Religious Charitable, Scientific, Literary, Educational, Prevention of Cruelty to Animals or Children; Civic Leagues—Social Welfare, Local Associations of Employees; Clubs for Pleasure, etc.; Corporations organized to hold title to property proceeds of which are to be turned over to exempt agency.

Tests Which Exempt Organizations Must Pass

The Federal Government during its administration of the several income tax laws has naturally promulgated many rules setting forth the practices which in its opinion would make an organization ineligible for exemption. Such rulings and the tax

liability incident to their application have resulted in a considerable number of cases being carried through the Federal courts, so that many of the questions which were the subject of acute controversy a few years ago have been finally settled. Many new points are being brought up, however, and almost every Treasury Department bulletin issued contained some rulings relating to exempt organizations.

To attempt to make anything like a complete review of the decisions which have been made or of the developments which have contributed to the formation of what we might term the "tests of exemption" would be impossible in an article of this character, so we will confine ourselves to a brief statement of the principle questions involved.

Mutual Business Organizations

In exempting mutual business organizations from taxation, Congress apparently had in mind from the very first two principles, one or both of which are common to all such organizations. These are the fostering of habits of thrift and the encouragement of the co-operative movement whereby persons of small means band together to perform for themselves with their united resources services which would otherwise have to be performed by others at a great cost or with less efficiency to the recipients.

The provisions of the exempting acts are in most cases brief and it would seem intended to be given a liberal interpretation where the two predominant principles, mentioned above, were present.

The Treasury Department in its administration, however, has been inclined to construe them in a restrictive way and in fact to endeavor to insist on requirements which it would seem it has no legal right to impose.

Thus we find the Federal courts ruling that in the determination of what constitutes mutuality (building and loan associations) that great weight must be given to the provisions of the statutes of the states under whose laws the association is organized. As was stated by the court in the case of the *Central Building and Loan Association v. Bowland*, "since Congress by using the adjective 'domestic' necessarily had in mind associations formed under the state laws and since almost all of such institutions have such powers under those laws, it may be said with some deexemption they otherwise would have simply because they had the gree of certainty that Congress did not intend to deny them the power to loan to persons not members or to borrow from them."

Similarly it has been ruled that the Commissioner has no right to inquire into the qualifications of members, and whereas it was once insisted upon that every borrower (building and loan association) must subscribe to stock equal to the amount of his loan, it is now an accepted principle, that merely subscribing to one share of stock which may or may not be fully paid is sufficient to meet the test of membership.

The difference between the manner in which Congress views these matters and the restrictive attitude of the Treasury Department will be appreciated by comparing the provisions of the 1926 Act relating to co-operative buying and selling organizations with those of previous acts. The change in the 1926 Act was brought about by restrictive ruling of the department in which Congress apparently did not concur.

With respect to the character of the organizations exempted, the government has been consistent in limiting the application of the laws to those concerns specifically named in the several acts. Thus a mutual life insurance company was not exempt until it was specifically referred to in the law.

Most of the questions which have been raised in connection with organizations of the character of those under discussion have had to do with building and loan associations. This is probably due to the greater number of organizations of this character and also because of the broadness of the field which their activities cover.

Generally speaking, a building and loan association to be exempt must make loans only to members, that is, holders of its stock, and it must secure the bulk of its capital from members. It has, however, been held that where an association temporarily loans out excess funds or makes temporary borrow—destroy exemption. Other requirements for exemption are that an association must maintain an equality between interest rates charged to borrowers and interest paid on capital, etc.; preserve an approximate equality in the returns paid to different classes of shareholders; conduct its business in general in such a way as to be mutual.

The Treasury Department has also laid down certain rules relating to the purposes for which moneys loaned may be used. For instance, one of the latest opinions is to the effect that if moneys are loaned to contractors who in turn resell to home buyers, exemption is destroyed. The soundness of this decision is being strenuously attacked. Another ruling, referring to dividend rates, is a subject of controversy at the present time the particular point involved being the extent to which larger dividends may be paid, on certain classes of stock which are subject to greater liabilities and burdens without destroying "approximate equality."

This class of exempt organizations differs from mutual business organizations, as has already been stated, in that they are not organized for profit but to render a service to the community. Each organization must be judged by the nature of its activities in order to determine the justice of its claims to exemption.

In passing upon the qualifications necessary for exemption reference must be made to the standards which have been established by rulings and court decisions. Some of these rulings covering the large majority of disputed questions are as follows:—

"Operating under the lodge system means carrying on its activities under a form of organization that comprises local branches by whatever name known, chartered by the parent organization and largely self governing. Organizations are operating under the lodge system only when they have a parent and local organization which are active. Mere provision in the constitution and by-laws for such bodies is not enough."

"Prohibition organization is partisan and not exempt from tax."

"A hospital association organized to furnish medical and surgical care to employees of corporations, persons, or partnerships with whom contracts are made and which does not treat any patients free is not a charitable institution."

The term charitable in Section 231 (6) of the Revenue Act of 1918 was used in a restricted sense and if an organization is properly classified within a paragraph of Section 231 other than (6) it will not be given a classification under that paragraph.

Where the purpose of an organization is personal, private, or selfish, it is not in the legal sense educational or charitable. In other words it is only where the purpose accomplished is that of public usefulness uninfluenced by personal, private or selfish consideration that an organization can claim exemption on the grounds that it is organized and operated exclusively for educational and charitable purposes.

An ordinary trust created by will, to be operated solely for charitable and educational purposes is not exempt from income taxation under the Revenue Acts of 1918, 1921, and 1924. Under the Revenue Act of 1924 but not under prior acts such a trust may deduct income that is to be used exclusively for religious, charitable, scientific, literary or educational purposes.

A corporation or association organized and operated for the purpose of administering a fund which is used for the benefit of those who make regular contributions thereto, or to their dependents, is not organized and operated exclusively for charitable purposes within the meaning of Section 231 (6) of the Revenue Acts of 1918 and 1921 and is accordingly not exempt from taxation.

A travelers' association providing for fixed benefits to the beneficiaries of the members is held to be a mutual insurance association rather than a fraternal benefit society. Since the law provides no exemptions for mutual associations of this character they are liable for returns and must pay the tax, if any shown to be due.

The rulings quoted above should convey a fair idea of what is expected from an organization of a charitable, religious, educational or similar nature. Taken in conjunction with the provisions of the acts themselves they indicate very plainly that legislation of this character cannot be equitably administered and that some organizations are denied exemption under a literal interpretation of the statutes when far less worthy organizations are exempted because they can qualify under some other part of the section. A most excellent example of this is the type of organization known as "employees' mutual benefit associations." They are ruled out as charitable organizations because they pay benefits only to their own members; they are not mutual insurance companies under the wording of the statutes; they are not co-operative banks; they are not fraternal organizations; but judged by the motives which prompted the enactment of our exemption statutes and in comparison with many other exempt organizations they are entitled to be relieved from the burden of Federal taxation.

Summary

We have endeavored to trace briefly the history of Federal insome tax exemptions showing the classes of organizations affected and very briefly some of the problems of their enforcement.

An unbiased review of these matters would seem to indicate the necessity for a revision of Section 231 so as to remove the inequalities existing and to provide for an enforcement based on what is evidently the spirit of the law. In this connection it is only just to state that the Treasury Department has done its best to handle the situation in an equitable manner but that it has had to deal with statutes which in their very essence open the way to abuse and discrimination.

A tax exemption program once embarked upon is difficult to curb and inevitably results in a situation where inequalities are created and benefits obtained by other than those for whom they were originally intended.

Oregon Paper Co. Gets New Paper Machine

WATERTOWN, N. Y., January 17, 1927.—The new 136 inch paper machine that has been built by Bagley & Sewall company for the Oregon Pulp and Paper Company of Salem, Ore., has been shipped to that place and is now being assembled. Richard Gray, who supervises the assembling of machines for the local company, is at Salem, supervising the work. The machine is the fourth that Bagley & Sewall have built and erected for the company.

The Oregon Paper company makes sulphite bond and is the only bond paper mill on the Pacific coast. The new machine is for the manufacture of bond paper and greaseproof. The other machines built by the local concern that are being used in the Oregon mill are a 112 inch, 132 inch, a 116 inch and the latest machine is a 136 inch machine.

The machine was shipped from this city in 35 cars to New York city and from that point it was taken by water to the Pacific coast. The trip was made by the Panama canal. Edward S. Lansing, an officer of the Bagley & Sewall company, said the machine had arrived at Salem and work had been started on assembling it.

Albany Felt Co. Builds Addition

[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., January 10, 1927.—The new addition to the plant of the Albany Felt Company, which has been under construction for some time, will be in operation by early spring, it is expected. The company manufacturs paper-makers' felts and jackets and the most recent addition to the plant will be used for general manufacturing. The addition has been constructed adjoining the main mill facing North Broadway. It is two stories in height and is constructed of brick. New Machinery for which orders had been placed in advance is now being installed in the building and this work will consume several weeks.

M. R. Higgins To Be Chairman of Zellerbach Corp.

SAN FRANCISCO, Cal., January 6, 1927.—An important series of promotions was effected within the Zellerbach Corporation at the meeting of its board of directors. Most important is the elevation of Vice-president M. R. Higgins to the position of chairman of the board.

This and other changes follow out a long contemplated plan of Mr. Higgins to place the smooth functioning organization in the hands of the younger men to operate with the older men acting in the role of advisers.

In a letter to executives, division managers and heads of departments, Mr. Higgins makes his announcement. He resigns his position as vice-president of Zellerbach Corporation to become chairman of the board, a newly created position. He resigns as president of the National Paper Products Company, the Washington Pulp and Paper Corporation and the Northwestern Power and Light Company.

He retains his position as president of the Olympic Paper and Power Company and as vice-president of the American Investment and Realty Company and the Zellerbach Paper Company.

Ascending to the position of president of the National Paper Products Company is J. D. Zellerbach, a director of the Zellerbach Corporation and one of the younger men. E. M. Mills, vice-president and director of the Zellerbach Corporation, becomes president of the Washington Pulp and Paper Corporation and the Northwestern Power and Light Company.

"This change of official status is in pursuance of a well digested plan which I formed some years ago," Mr. Higgins stated. "It awaited the time when conditions warranted the change. The principal reason for my action is to bring forward those who have qualified themselves to assume the duties of president of our manufacturing industries.

Mr. Higgins is one of ablest corporation executives in the West and so recognized. The change is of great value to the company for it permits this genius to further his plans, relieved of operating duties, for continued growth of the corporation.

L. I. Andrews Goes With Oswegatchie Co.

GOUVENEUR, N. Y., January 17, 1927.—Superintendent L. I. Andrews of the Oswegatchie Paper company mill at Natural Dam, near here, has tendered his resignation after serving in that capacity for the past two years. He has been succeeded by William La Mott, who for some time past has been superintendent of the Champion Paper Company mill at Carthage.

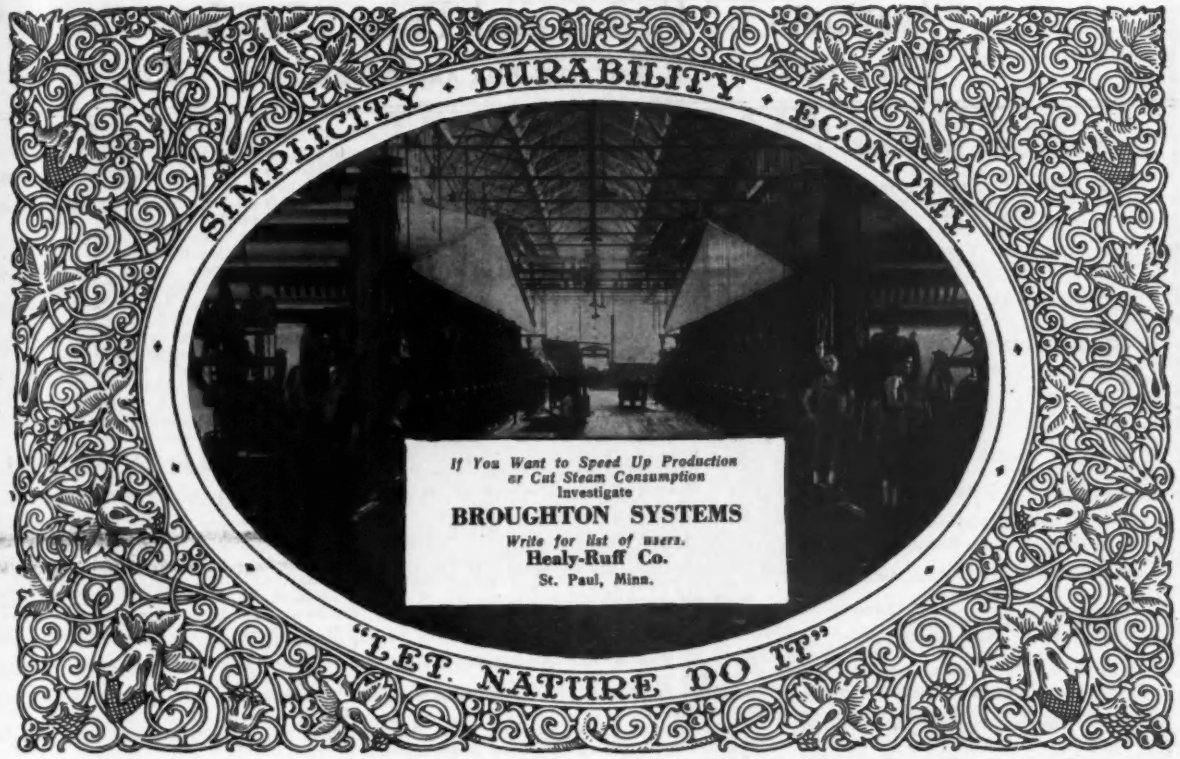
Mr. Andrews has been in ill health for some time past and his present condition has compelled him to relinquish his duties at the mill. He came to Gouveneur from the Great Northern Paper Company mill, situated at East Millinocket, Me., where he served as superintendent for a number of years. His present plans are uncertain, although it is said he will take a long needed rest before seeking other employment.

Mr. La Mott took over his new duties as superintendent of the mill early this month.

I. P. Co. Applies for Power Permit in Alaska

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., January 11, 1927.—An application has been applied for to the Federal Power Commission by the International Paper Company for a preliminary permit for the construction of a water power project near Ketchikan, Alaska, for the manufacture of pulp and paper, according to announcement made by the Commission. The project would be located on Fish, Beaver Falls, and Granite Creeks and Swan, Orchard, Mahoney, Grace, Manzanita and Punchbowl Lakes within the Tongass National Forest. It is stated by the Commission that this application is in conflict with four other applications.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SUMMARY

Wall paper	403 bls., 46 cs.
Paper hangings	54 bls., 14 crates, 13 cs.
Typon paper	2 cs.
Printing paper	341 bls., 103 cs.
Wrapping paper	10 cs.
Packing paper	29 bls.
Stencil paper	67 cs.
Cover paper	3 cs.
Colored paper	16 cs.
Drawing paper	38 cs.
Surface coated paper	73 cs.
Basic paper	61 cs.
Photo paper	2 cs.
Filter paper	44 cs.
Filter pulp	25 bls., 20 cs.
Writing paper	1 cs.
Pergamyn paper	8 cs.
Miscellaneous paper	148 bls., 2 rolls, 261 cs.

WALL PAPER

R. F. Downing & Co., Minnetonka, London, 17 bls., 6 cs.

F. & R. Trading Corp., Lapland, Antwerp, 264 bls.

Rohner, Gehrig & Co., Lapland, Antwerp, 94 bls.

F. J. Emmerich, A. Ballin, Hamburg, 3 cs., 12 bls.

W. H. S. Lloyd & Co., Aurania, Liverpool, 2 bls.

F. J. Emmerich, Aurania, Liverpool, 9 cs., 14 bls.

Thomas & Pierson, Aquitania, Southampton, 1 cs.

Keller-Dorian Paper Co., Aquitania, Southampton 27 cs.

PAPER HANGINGS

Whiting & Patterson Co., Minnetonka, London, 14 crates.

W. H. S. Lloyd & Co., Minnetonka, London, 43 bls., 8 cs.

G. J. Hunken, A. Ballin, Hamburg, 7 bls., 1cs.

A. C. Dodman, Jr., Aurania, Liverpool, 4 bls.

Whiting & Patterson Co., Aquitania, Southampton,) 4 cs.

TYPON PAPER

Globe Shipping Co., Aquitania, Southampton, 2 cs.

PRINTING PAPER

J. P. Heffernan Paper Co., A. Ballin, Hamburg, 10 bls.

Perkins, Goodwin & Co., A. Ballin, Hamburg, 76 cs.

C. Steiner, A. Ballin, Hamburg, 5 cs.

E. Dietzgen & Co., A. Ballin, Hamburg, 22 cs.

American Exchange Irving Trust Co., Scotsburg, Hamburg, 331 bls.

WRAPPING PAPER

National City Bank, Lapland, Antwerp, 7 cs.

C. Steiner, A. Ballin, Hamburg, 3 cs.

PACKING PAPER

Steffens, Jones & Co., A. Ballin, Hamburg, 29 bls.

STENCIL PAPER

Arlac Dry Stencil Co., A. Ballin, Hamburg, 67 cs.

COVER PAPER

International Forwarding Co., A. Ballin, Hamburg, 3 cs.

COLORED PAPER

H. D. Catty & Co., Lapland, Antwerp, 2 cs.

C. W. Williams, Lapland, Antwerp, 13 cs.

A. H. Ringk & Co., A. Ballin, Hamburg, 1 cs.

DRAWING PAPER

International Forwarding Co., Lapland, Antwerp, 38 cs.

SURFACE COATED PAPER

P. Puttman, Lapland, Antwerp, 5 cs.

Gevaert Co. of America, Lapland, Antwerp, 65 cs.

Whiting & Patterson Co., A. Ballin, Hamburg, 3 cs.

BASIC PAPER

Globe Shipping Co., Lapland, Antwerp, 61 cs.

PHOTO PAPER

J. J. Gavin, Aurania, Liverpool, 2 cs.

FILTER PAPER

E. Fougera & Co., Aquitania, Southampton, 44 cs.

FILTER PULP

F. Bing, A. Ballin, Hamburg, 25 bls.

Fuerst Bros., A. Ballin, Hamburg, 20 cs.

WRITING PAPER

W. J. Byrnes, A. Ballin, Hamburg, 1 cs.

PERGAMYN PAPER

F. C. Strype, A. Ballin, Hamburg, 8 cs.

MISCELLANEOUS PAPER

Steiner Paper Corp., A. Ballin, Hamburg, 148 bls., 1 cs.

W. Hartman & Co., A. Ballin, Hamburg, 2 rolls.

H. Reeve Angel & Co., Inc., Tsuy. Maru, Kobe, 3 cs.

Japan Paper Co., Paris, Havre, 3 cs.

Kadri Bros., Paris, Havre, 26 cs.

R. F. Downing & Co., Paris, Havre, 6 cs.

Guibout freres, Paris, Havre, 24 cs.

The Surbrug Co., Paris, Havre, 15 cs.

E. Dietzgen & Co., Paris, Havre, 11 cs.

Defiance Sales Corp., Paris, Havre, 8 cs.

Coenca Morrison & Co., Paris, Havre, 5 cs.

Standard Products Corp., Paris, Havre, 155 cs.

H. Reeve Angel & Co., Inc., Nevada, Copenhagen, 4 cs.

RAGS, BAGGINGS, ETC.

American Express Co., Minnetonka, London, 50 bls. rags.

Royal Manfg. Co., Victoria Maru, Genoa, 5 bls. cotton waste.

I. Heuerfeld, Patagonier, Antwerp, 6 bls. rags.

E. J. Keller Co., Inc., Patagonier, Antwerp, 67 bls. rags.

Chemical Natl. Bank, Patagonier, Antwerp, 58 bls. rags.

Bankers Trust Co., Patagonier, Antwerp, 84 bls. rags.

Central Natl. Bank, Patagonier, Antwerp, 50 bls. rags.

B. D. Kaplan, Patagonier, Antwerp, 6 bls. rags.

E. J. Keller Co., Inc., Lapland, Antwerp, 122 bls. thread waste.

Brown Bros. & Co., Cameronia, Glasgow, 52 bls. rags.

E. J. Keller Co., Inc., A. Ballin, Hamburg, 63 bls. rags.

W. Steck & Co., A. Ballin, Hamburg, 45 bls. rags.

G. P. Lotterhand, A. Ballin, Hamburg, 2 bls. rags.

Darmstadt, Scott & Courtney, A. Ballin, Hamburg, 5 bls. rags.

Levy Bros., A. Ballin, Hamburg, 45 bls. rags.

E. J. Keller Co., Inc., A. Ballin, Hamburg, 95 bls. rags.

Bulkley, Dunton & Co., A. Ballin, ——, 97 bls. rags.

American Over-Ocean Corp., Maru Kobe, 75 bls. rags.

Equitable Trust Co., Tsuy, Maru Kobe, 20 bls. rags.

Chatham & Phoenix Natl. Bank, Tsuy. Maru Kobe, 26 bls. rags.

Castle & Overton, Inc., Aurania, England, 39 bls. picker waste.

E. J. Keller Co., Inc., Carnia, Algiers, 103 bls. bagging.

OLD ROPE

Brown Bros. & Co., Exeter City, Bristol, 104 coils.

Jaffe Products Co., R. E. Lee, Havana, 148 coils.

MANILA ROPE

Ellermans' Wilson Line, Minnetonka, London, 19 coils.

HEMP ROPE

N. Y. Cordage Co., Aurania, Liverpool, 1 pkg.

United Fruit Co., Aurania, Liverpool, 13 pkgs.

WOOD FLOUR

Innes, Speiden & Co., Nevada, Copenhagen, 678 bags.

CASEIN

National City Bank, Vauban, Buenos Aires, 1,269 bags.

WOOD PULP

Tidewater Papermills Co., Bornholm, Liverpool, 11,823 bls. wood pulp.

Pagel, Horton & Co., Inc., Skiensfjord, Gefle, 1,500 bls. sulphite, 304 tons.

Scandinavian Pulp Agency, Inc., Skiensfjord, Skutskar, 2,575 bls. sulphate.

Scandinavian Pulp Agency, Inc., Skiensfjord, Sundsvall, 3,500 bls. sulphate, 700 tons.

Scandinavian Pulp Agency, Inc., Skiensfjord, Sundsvall, 1,505 bls. sulphite, 301 tons.

Johanson, Wales & Sparre, Inc., Skiensfjord, Sundsvall, 4,375 bls. sulphite, 875 tons.

Bulkley, Dunton & Co., Skiensfjord, ——, 10,250 bls. wood pulp, 2,066 tons.

National City Bank, Scotsburg, Hamburg, 500 bls. wood pulp, 100 tons.

PHILADELPHIA IMPORTS

WEEK ENDING JANUARY 15, 1927

Scandinavian Pulp Agency, Inc., Skiensfjord, Skutskar, 1,310 bls. wood pulp.

Scandinavian Pulp Agency, Inc., Skiensfjord, Sundsvall, 1,375 bls. sulphite.

Johanson, Wales & Sparre, Inc., Skiensfjord, Sundsvall, 4,250 bls. sulphite.

M. Gottesman & Co., Inc., Skiensfjord, Sundsvall, 600 bls. sulphite.

Price & Pierce, Ltd., Skiensfjord, Sundsvall, 1,320 bls. sulphite.

E. J. Keller Co., Inc., Schodack, Havre, 90 bls. bagging.

E. J. Keller Co., Inc., West Campgaw, Hamburg, 142 bls. rags.

E. J. Keller Co., Inc., Floridian, Kobe, 300 bls. rags.

Robert Blank, London Exchange, London, 143 bls. rags.

Castle & Overton, Inc., Schodack, Havre, 44 bls. rags.

Castle & Overton, Inc., Holger, Germany, 734 bls. wood pulp.

Castle & Overton, Inc., Boschdyk, Holland, 104 bls. rags.

Buck, Kiaer & Co., Inc., Dania, Oslo, 2,400 bls. wood pulp.

NEW ORLEANS IMPORTS

WEEK ENDING JANUARY 15, 1927

Castle & Overton, Inc., St. Andre, France, 294 bls. rags.

Castle & Overton, Inc., St. Andre, Belgium, 206 bls. rags.

E. J. Keller Co., Inc., K. I. Luckenbach, Kobe, 100 bls. bagging.

E. J. Keller Co., Inc., Cardonia, Barcelona, 175 bls. rags.

BALTIMORE IMPORTS

WEEK ENDING JANUARY 15, 1927

Castle & Overton, Inc., Holger, Germany, 3,268 bls. wood pulp.

Buck, Kiaer & Co., Inc., Singapore Maru, Hamburg, 300 bls. sulphite.

NORFOLK IMPORTS

WEEK ENDING JANUARY 15, 1927

Castle & Overton, Inc., Holger, Germany, 180 bls. wood pulp.

Buck, Kiaer & Co., Inc., Holstein, Trondhjem, 360 bls. sulphite.

BOSTON IMPORTS

WEEK ENDING JANUARY 15, 1927

Robert Blank, Naperian, London, 173 bls. rags.

Buck, Kiaer & Co., Inc., Dania, Oslo, 200 bls. sulphite.

ECONOMY IN PULP DRYING
FIDALGO SYSTEM

(Patented in Dominion of Canada, pending in U. S. and other countries.)

INVESTIGATE OUR INSTALLATIONS

3500 lbs. steam per ton air dry pulp.

Shredded, pressed and baled securely.

Can be wrapped if required.

BALES from 150 to 250 lbs. as required.

Discharge End—Before Baling

We furnish and install

Double press Wet Machine, sectional Dryer

Shredder
Baling press
motors and drive

Producing a compact air dry bale of Shredded Pulp. No injury to Fibre due to contact heated cylinder and saving in Beater horsepower and upkeep. Suitable rail or water shipment.

Small initial investment and low drying cost.

TECHNICAL ECONOMIST CORPORATION
40 RECTOR STREET, NEW YORK, N. Y.

CABLE HERENCO TELEPHONE WHITEHALL 5243

WOOD PULP MAN

WE have an excellent opening for a competent pulp man who understands the marketing of foreign and domestic pulp. He should know the buyers, understand their requirements and be able to handle correspondence. The opportunity is a splendid one for the man who has the qualifications. Remuneration based upon individual's ability and experience. Reply to Mr. Benjamin Gottesman stating your age, experience and qualifications.

HUDSON TRADING COMPANY
270 Madison Ave.
New York City

Pulpwood To Be Sold In Canada

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., January 18, 1927.—The two largest timber sales ever offered by the Forest Service, United States Department of Agriculture, are now being advertised for competitive bids. These are sales of pulpwood in Alaska, each for five billion board feet. Announcement of these offerings was made by Secretary of Agriculture Jardine today. One sale is in the northern part of the Tongass National Forest not far from Juneau, and the other is in the southern part of the Forest near Ketchikan. The establishment of at least a 200-ton paper mill in Alaska is required as a condition of each sale, with opportunity to expand to 500 tons. The advertisements are in response to applications for timber and water power permits filed by a number of companies or groups of responsible individuals.

"The purpose of the department in offering these sales," said Secretary Jardine, "are first of all to aid in the economic development of the Territory by establishing large units of a ew industry, using National Forest wood as its raw material; and secondly, to make that industry permanent by insuring a perpetual supply of timber. We invite and will protect the investment of capital necessary to establish large units of paper manufacture. At the same time, we must fully protect the public interest by getting fair compensation for the Government timber. The sales are offered with all these purposes in mind."

Mr. Jardine said that southeastern Alaska has the timber, the water power and transportation facilities necessary for the development of a large paper-manufacturing industry.

Hemlock and spruce are the chief trees, and they are the best woods for making newsprint. In the eastern United States, scarcity of available timber close to cheaply-developed water power has prevented the growth of paper-making in recent years and has led to the esablishment of new mills in Canada and Newfoundland instead of within the United States. The offerings of Alaska timber, he pointed out, will result in mills on American soil, using American timber, and supplying American paper users with a native instead of an imported product.

Two big paper mills will mean much to Alaska, the Secretary said. The Territory needs new and permanent industries. The Department of Agriculture has previously pointed out the opportunity for paper manufacturing in the heavily timbered "Panhandle" with its seventy-eight billion feet of hemlock and spruce timber, its water powers, and its sheltered channels, which are open the year round. Paper manufacturers have recently studied conditions on the ground to determine whether the manufacture of nws print and other forms of paper in Alaska is economically feasible.

For Adequate Bill For Forestry

Steps to secure the enactment by Congress of an adequate bill for the development of research in the whole forestry field were taken at a meeting of the National Forestry Program Committee at the Canadian Club, New York City, January 13.

This is a development of importance to the whole forestry movement, only secondary in importance to the original formation of the Committee to foster sentiment for a national forestry policy for the United States, which finally secured the passage of the McNary-Clarke forestry bill.

In the original draft of the Snell bill, later passed as the McNary-Clarke act, a section provided for forestry research. This was omitted when the final bill was passed, but now the national movement has been initiated for the securing of authorization of adequate appropriations for research.

The meeting of the National Forestry Program Committee was largely attended. Those present included Chairman R. S. Kellogg, of the News Print Service Bureau; Wilson Compton, of the National Lumber Manufacturers Association; L. B. Palmer of the American Newspaper Publishers Association; Dr. Hugh P. Baker, of the American Paper and Pulp Association; Charles Lathrop Pack, of the American Tree Association; Ovid M. Butler, of the American Forestry Association; William L. Hall of the Central States Forestry League, Chicago; Philip W. Ayres, of the Society for Protection New Hampshire Forests, and Warren B. Bullock, secretary of the Committee. S. T. Dana, and E. H. Clapp, representing the Society of American Foresters were also present by invitation of the Committee.

A tentative bill was discussed, and a preliminary draft considered. The draft as discussed, provided for the authorization of the following annual appropriations:

For Forest Experiment Stations	$1,000,000
For study of forest diseases	250,000
For study of forest insect pests	250,000
For study of forest wild life	90,000
For study of forest weather, to assist in fire prevention	50,000
For study of grazing problems	275,000
For utilization of forest products studies	1,000,000
For study of use of foreign woods	50,000
For forest survey and economic research	500,000

This tentative program would involve a total authorization of $3,465,000 a year for research, and the tentative bill also includes an appropriation of $900,000 for a new forest products laboratory building at Madison, Wis.

The Committee decided to follow the same methods pursued in the campaign for a forestry policy bill, beginning with the introduction as soon as a proper measure can be prepared, to provide for research as outlined above. Committees of Congress will then be asked to take testimony as to the need for the various items. Meanwhile the National Forestry Program Committee will take every possible step to secure general and congressional approval for the research work necessary if the forests of the United States are to be protected from damage and a proper utilization and avoidance of waste assured.

The sentiment of the entire committee was that the research proposed would be of the greatest value to the entire country in incrasing the return to the public from this portion of thenation's natural resources, and that the money expended in such work would be an investment productive of financial returns inestimably larger than the sums proposed to be expended.

Woodlands Section's Seventh Annual Meeting

Is practical forest management for the continuous production of pulpwood possible? This question is increasingly in the minds of the leaders of the pulp and paper industry.

As a contribution toward the answering of this question the program for the Seventh Annual Meeting of the Woodlands Section has been arranged to present the latest available information from three of the Unitd States Forst Service Forest Experiment Stations, all working in major pulpwood producing rgions. Papers will be presented by the following officials. S. T. Dana, director, Northeastern Forest Experiment Station; Raphael Zon, director, Lake States Forest Experiment Station, and E. H. Frothingham, director, Appalachian Forest Experiment Station.

Definite arrangements have been made for these officials to present their paprs in prson. Arrangements are also undr way for prpared discussion of the papers and ample time has been allowed for this and for impromptu discussion.

Each of these officials is an authority on the forest possibilities of his region and has devoted much time to those problems of forest management which are of particular interest to pulpwood consumers. They will present the latest results of their research work, which will not be available in printed form until much later, and will discuss forest problems from the particular angle of the pulpwood consumer.

There will also be the usual informal dinner the night of February 23.

Prompt Action

A proposition for financing had previously been submitted to other bankers who were unfamiliar with the company's properties and they were unable to handle the business without an extended investigation and delays. From the data accumulated in our files, it was possible for us to make a prompt decision of favorable advantage to the company.

This is an example of our ability to render prompt service regarding financing because of our knowledge of properties in all sections of the country gained through many years of specialized experience. We can render you a similar service.

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Securities Corporation

231 South La Salle Street, Chicago

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Seattle

350 Madison Ave.
New York

626 Henry Bldg.
Seattle, Wash.

Expert Lubrication Service

which costs you nothing

THE Tide Water Engineering Bureau is at your service in solving all lubrication problems. This expert service is entirely *without cost or obligation.* Send a card today and one of our Staff Engineers will be glad to call at your mill to make a lubrication survey under your direction.

The Tide Water Power Group
—for paper mill lubrication

TYCOL GEAR COMPOUND
A soft, semi-fibrous grease for enclosed gears under heavy pressure.

TYCOL MEDIUM YARN GREASE
For beater bearings where high temperatures, heavy pressures and water are present.

TYCOL YARN GREASE
For dryer and other bearings operating at high temperatures.

TYCOL LUBRICANT NO. 1
A medium hard grease for Jordans, grease lubricated calender rolls and for general use.

TYCOL GREASE
A hard grease for replenishing Tycol Yarn Grease.

TYCOL GEAR COATING SOFT
A viscous lubricant especially recommended for use on slow-moving open gears.

TIDE WATER OIL SALES CORPORATION
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WOOD PULP AGENTS

PRICE & PIERCE, Ltd.,

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Cut Your Paper Handling Costs 25%

END LOADER

SKID-EM-ON TRUCKS

SKID-EM-ON trucks are built for the hardest kind of use. They are built low, and are scientifically designed to carry the load evenly on specially bushed wheels, hardened axles and roller bearings.

Made of structural steel and will stand the wear and tear of daily use for a lifetime.

Write for full particulars.

Central Machine Works
437 S. Senate Ave., Indianapolis, Ind.

New York Market Review

Office of THE PAPER TRADE JOURNAL,
Wednesday, January 19, 1927.

Trading in the local paper market during the past week was more active than at any time since the holidays. Conditions appear to be gradually improving, and prices are being well maintained in most sections of the industry. Sales organizations of the leading paper houses are keyed up for a strenuous campaign during the current year, and future prospects are considered decidedly promising.

The demand for newsprint is excellent and the position of the market is strong. Production is proceeding on a satisfactory scale, and the output is being absorbed freely by the publishers. According to the News Print Service Bureau, the total United States and Canadian production during December was 298,423 tons, and the total Newfoundland output 17,215 tons.

The various grades of paper board are in better request. Spot supplies of box board are in particularly good demand. The fine paper market continues to exhibit a strong tone, and prices are steady to firm. Kraft wrapping paper is in good demand, and the coarse paper market in general is in satisfactory condition.

Mechanical Pulp

Demand from the news print and board mills for ground wood is moderately active. While supplies are reported to be limited, no change has been recorded in the quotations of late. Foreign ground wood is said to be rather scarce. Manufacturers are anticipating a satisfactory year, and the future trend of the market is expected to prove steady.

Chemical Pulp

While the chemical market was rather quiet during the past week, an improved tone is anticipated in the near future, as, witwh inventories out of the way, the demand from the mills is expected to expand. Prices are being well maintained at the recently quoted levels and no concessions are in prospect at the present time.

Old Rope and Bagging

Mill demand for both domestic and imported old rope is fairly satisfactory. Although most of the bagging business transacted recently has been along routine lines, an improvement appears to be developing in the request for roofing bagging. The schedule is being well maintained and prices are holding to former levels in most instances.

Rags

There is an improved demand for imported rags, and, with supplies decidedly limited, prices are steady to firm. Roofing rags are in particularly good request. More interest is also developing in domestic rags, now that the inventory period is coming to a close. In the opinion of many observers, the market will become more lively in the near future.

Waste Paper

Although the paper stock market was rather dull during the past week, prices are holding up very well. The view is expressed in some quarters that many of the board mills will shortly be in the market to replenish their supplies, and trading should become more active in the course of the next few weeks. No radical changes in prices have been recorded.

Twine

The twine market appears to be marking time at present. Most of the transactions recorded lately have been along routine lines. Prices are holding up very well to former levels. Should the excellent demand for wrapping paper, which has prevailed for some time, continue, the twine market is sure to derive benefit.

Upper Hudson Valley Mills Busy

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., January 10, 1927.—The pulp and paper industry of the Upper Hudson Valley and Northern New York is facing a bright outlook for 1927, according to manufacturers of this section. With a few exceptions the past year has been a good one for paper mills and paper mill men can see nothing in the outlook for the future that would furnish the slightest reason for pessimism. As a matter of fact some mill executives consider the present outlook better than it has been for two or three years past.

Probably the best indication of the general prosperity of paper mills is the large number of orders being handled by concerns manufacturing paper mill machinery. In this immediate vicinity several such concerns are reported operating at top speed with as many orders as can be conveniently handled.

Mill operations at the present time are increasing and only one or two mills are reported on part time. The mills of the Union Bag and Paper Corporation, of Hudson Falls, resumed work in in No. 5 division on January 3 and the Fenimore and Allen Mills are scheduled to resume operations the coming week. The Union Bag mills have been closed down for about four weeks.

The International Paper Mill at Fort Edward is operating with about sixty per cent of its normal working force which is the most extensive scale of operation that has been effective at the plant for several years. Consistent reports are in circulation that operations are to be extended at the Fort Edward mill in the near future.

The West Virginia Pulp and Paper Company, and the Gillette Fibre Mills, at Mechanicville, the Iroquois Pulp and Paper Company, and the United Paperboard Company, at Thomson, and the Fort Miller Pulp and Paper Company, of Fort Miller, are all running at or close to normal. The Corinth and Palmer mills of the I. P. Co. continue among the most active in the Upper Hudson territory. All machines in the Hudson River Mill are being operated on a twenty-four hour schedule.

Representative paper mill men of this section believe that unless something unforseen occurs the present year should be one of the best in several years.

Olympia To Have Paper Plant

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., January 10, 1927.—Business men of Olympia, Wash., have subscribed part of the necessary $20,000 to bring a paper plant worth $60,000 to that city. As soon as the required $20,000 is pledged, A. D. Bowen of Seattle will furnish the balance of the funds to get the paper plant under way.

Better Paper

QUARTZ Silicate QUALITY

Better paper is made by using "S" Brand or "A-Syrup" Quartz Quality Silicates. Whether it is a drum, a carload or a tank car, send us your inquiries. Prompt service is assured by six plants and stocks in thirty-two cities.

Philadelphia Quartz Company
121 S. Third St., Philadelphia

Quartz Quality Silicates of Soda

PENBERTHY PRODUCTS
REG. U.S. PAT. OFF.

Venturi Circulators and Separators
for paper drying

Require no cold water injection or mechanical pumps, as the entering drier process steam creates ample suction to remove condensate.

Freedom from moving parts
Low Maintenance Costs

CIRCULATOR

They are simple, durable, efficient and inexpensive. They increase the efficiency of the drier and reduce production costs.
No moving parts to get out of order.
Maintain Uniform Drying
Adaptable to all grades of paper machines
Write for circular No. 239

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CANADIAN PLANT: WINDSOR, ONT.

SEPARATOR

For Greater Economy
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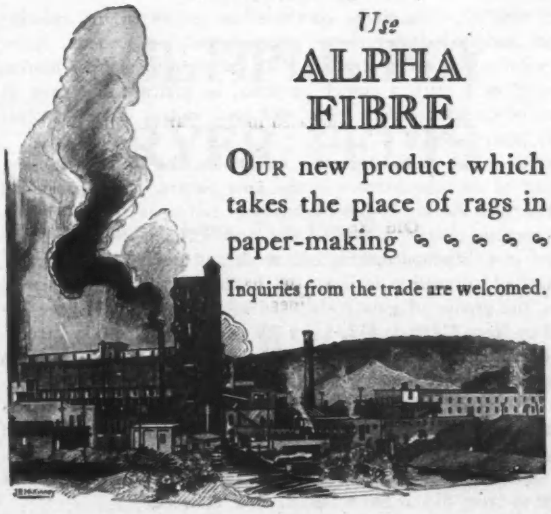


OUR new product which takes the place of rags in paper-making

Inquiries from the trade are welcomed.

BROWN COMPANY
founded 1852
PORTLAND MAINE
Mills at Berlin, New Hampshire

NEW YORK CITY
Woolworth Bldg.

CHICAGO
110 so. Dearborn St.

Miscellaneous Markets

Office of THE PAPER TRADE JOURNAL,
Wednesday, January 19, 1927.

During the past week, trading in the local chemical market was fairly active. Shipments against standing contracts continue to proceed at a steady pace. The tonnage of orders booked so far this year is heavy enough to denote the probability that the coming twelve months will at least prove as good as the past year. Prices are being well maintained, in most instances, and shading is infrequent.

BLANC FIXE.—Demand for both the pulp and the powder has been rather light of late and, consequently, prices are easier. An improved request is looked for from the paper mills, now that quotations are slightly lower. The pulp is offered at $60 a ton, in bulk, and the powder is selling at from 4 cents to 4½ cents a pound, in barrels, at works.

BLEACHING POWDER.—The tone of the bleaching powder market was steady during the past week, and prices were unchanged. Contract withdrawals were moving in good volume. Bleaching powder is still selling at from $2 to $2.40 per 100 pounds, in large drums, at works, according to quantity, and size of order.

CASEIN.—No radical changes were recorded in the casein market. Both the domestic and the imported product were in moderate demand and prices were generally maintained at the formerly quoted basis. The quotation for imported casein ranges from 15 cents to 16 cents a pound. Domestic casein is offered at from 15 cents to 16½ cents a pound, all in bags, car lot quantities.

CAUSTIC SODA.—Manufacturers of caustic soda are reported o be well sold ahead on contract business. Prices are holding up very well and the market is in a sound condition. Caustic soda s quoted at from $3 to $3.10 per 100 pounds, in large drums, at works. Spot car lots are offered at $3.20 per 100 pounds.

CHINA CLAY.—New business in the china clay market was rather scarce during the past week. Shipments on contract, however, continue to go forward at a normal rate. Imported china clay is still selling at from $15 to $25 a ton, in bulk, ship side. Domestic washed clay is quoted at from $8 to $9 a ton, at mine, and pulverized at $10 a ton.

CHLORINE.—Steadiness continues to prevail in the chlorine market, and manufacturers are generally sold well ahead. Contract withdrawals are proceeding in an excellent manner. Chlorine is quoted at 4 cents a pound, in tanks, or multiple-unit cars, at works, on contract orders. The spot price ranges from 4½ cents to 4¾ cents a pound.

ROSIN.—The rosin market is easier, but the trade is looking forward to an improvement in the near future. It is presumed that the rosin market in general has been falling in sympathy with the turpentine market. One of the large London dealers in turpentine suspended operations last week and quite a considerable quantity of turpentine is involved in the failure. At the naval stores, the grades of gum rosin used in the paper mills have declined to from $12.05 to $12.15 per 280 pounds, ex dock, in barrels. Wood rosin prices have been reduced to $9.50 per 280 pounds gross, at southern shipping points.

SALT CAKE.—The salt cake market continues to exhibit a strong undertone, and some good sized contracts were booked during the past week. Shipments are moving into consumption at a satisfactory rate. Prices are steady to firm. Salt cake is quoted at from $18 to $20 a ton, in bulk, at works.

SODA ASH.—Demand for soda ash is being well maintained. Most of the normal contract business for the current year has already been booked. Shipments are going forward in substantial volume. Contract quotations, in car lots, at works, per 100 pounds, are as follows: in bags, $1.32½, and in barrels, $1.57½.

STARCH.—Moderate activity continues to prevail in the starch market. Most of the business being transacted at the present time is along routine lines. No further changes in quotations have been made by the refiners. Special paper makers' starch is still offered at $3.22 per 100 pounds, in bags, and at $3.39 per 100 pounds, in barrels.

SULPHATE OF ALUMINA.—Some improvement was experienced in the sulphate of alumina market during the past week. The demand was broader and prices were steady to firm. Commercial grades of sulphate of alumina are quoted at from $1.40 to $1.45 in bags, at works, in car lots. The iron free is selling at from $2 to $2.05 per 100 pounds, at works.

SULPHUR.—The sulphur market exhibited a steady undertone during the past week. Contract shipments continue to move in excellent volume. Prices are practically unchanged, and there is little talk of concessions at the present time. Sulphur is still offered at from $18 to $19 a ton, in bulk, at mine.

TALC.—Routine shipments against contract are proceeding in the talc division. Prices are generally being well maintained. The quotations on domestic talc range from $16 to $18 a ton, at eastern mines; while French talc is quoted at from $18 to $22 a ton, ship side.

Bright Outlook For Los Angeles Paper Trade

[FROM OUR REGULAR CORRESPONDENT]

LOS ANGELES, Cal., January 14, 1927.—Most of the paper houses have completed their annual inventory and are busily engaged in laying their plans for the year to come. Apparently there is a fine spirit of optimism animating most of the factors in Los Angeles and nearly everyone is looking forward to a year of good volume and satisfactory profits. In fact, in this latter respect the outlook is far more favorable than it was at this time last year. At that time a sort of readjustment of conditions was going on and hardly was this attained until well along in the year 1926. Conditions began to improve during the last quarter of the last year and these still are continuing to improve. In short, the paper market, as far as Los Angeles and Southern California are concerned, may be said to be in a fairly healthy condition at present, with the prospects favorable for a continuance of that state.

In the last report from here something was said about the expansion going on in the paper industry and several concrete instances of projected improvements were instanced. In line with this is the plan just announced by the Hersee Company, set up paper box manufacturers of Los Angeles, that the company will build a new plant in the near future on East 62nd street, between Central and South Park avenues, which will treble the productive capacity of the present plant, located at 912 East 60th street. In the past the Hersee Company, Inc., has employed approximately 75 men and women, and has turned out about 3,000,000 set up paper boxes a year. According to officials of the company the projected plant will have 52,000 sq. ft. floor space, will afford accommodations for about 250 employees and will increase the capacity of the plant to approximately 10,000,000 boxes a year. It is the intention of the company to increase the number and variety of the boxes it manufactures, notably along the line of embossed fine candy boxes.

Another plan of expansion in Southern California paper institutions has just been announced by the California Fruit Wrapping Mills, Inc., of Pomona. According to F. O. Fernstrom, president of the company, a project for building a second unit to the present plant will be presented to the board of directors on February 7 for its approval. During the last few months the plant has been running three shifts of men working night and day to to keep pace with the demands from Southern California fruit packers for wrappers. Mr. Fernstrom said he could see no possibility of a let up in operations while present contracts are pending and if the company hopes to expand its business, as it undoubtedly does hope to do, it will be necessary for it to erect the proposed unit before the demand for next year materializes.

Thomas O'Keefe, assistant manager of the Sierra Paper Company, was called to Chicago on January 7 by the death of his brother, who was a merchant of that city.

B QUALITY PULPS

"HAFSLUND BEAR"
Bleached Sulphite

"FORSHAGA"
Bleached Sulphite

"HURUM SPECIAL"
Extra Strong Kraft

"BAMBLE"
Extra Strong Kraft

The Borregaard Company
Incorporated
200 FIFTH AVENUE NEW YORK, N. Y.

Clay
300 tons daily
AMERICAN MADE FOR AMERICAN TRADE

Over forty-one years' experience in the clay industry has naturally resulted in the adoption of the most scientific methods and practices.
This record of achievement is your guaranty of Clay of absolute uniformity at prices consistent with M. E. quality and service.
Prices of M-E pulverized clay may surprise you even considering this additional treatment.
Let us submit sample and quote you.

THE
MINER-EDGAR CO.
110 William St.,
NEW YORK

Stearns Wood Tanks

Our modern tank factory is equipped with the latest machinery and experienced men. We make wood tanks of all sizes and for all purposes. A Stearns Tank is a long-life tank.

We specialize in Cypress and Red Wood.

Send for our new catalog T

The A. T. Stearns Lumber Co.
NEPONSET, BOSTON, MASS.
STEARNS TANKS

TRIUNE
AND
MULTIPLE PLY DRYER FELTS

Serve every Felt Purpose in an efficient and satisfactory way.

ENGLISH or BAKER WOVEN

Made in three, four, five and six ply—60" to 214" wide.

FITCHBURG DUCK MILLS
FITCHBURG, MASS.

For 82 Years Makers of Fine Faced Felts for Papermakers

Market Quotations

Quoted by Hepburn & Co., 74 Broadway, N. Y. City, to whom all inquiry for quotations on these or any other Securities is referred.

BONDS	BID	OFFERED
Advance Bag & Paper, 7s 1943	100	103*
A. P. W. Pulp & Power, 7s 1945	103	106*
American Writing Paper, 6s 1947	79	82
Bastrap Pulp & Paper, 6½ 1940	98	101*
Bedford Pulp & Paper, 6½ 1942	97	100*
British Columbia Pulp & Paper, 6s 1950	80	90*
Beaver Products Corp., 7½s 1942	106	109
Bedford Pulp & Paper, 6½s 1942	95	100
Berkshire Hills Paper, 8s 1941	60	80
Brown Paper Co., 1st 5½s 1946	94	98
Bryant Paper Co., 6s 1942	98	102
Cape Breton Pulp & Paper, 6s 1932	101	103
Central Paper Serial 6, 6½s 1942	89	...
Champion Coated Paper, 6s 1926 to 1932	98	...
Champion Fibre, 8s 1930	100	...
Champion Paper Corp'n, 1st 6s 1945	94	97
Continental Paper Products, 6½s 1943	88	91½
Cornell Wood Prod., 7½s 1937	100	104*
Crown Willamette Paper, 6s 1951	97	101
Donnaconna Paper, 6s 1940	100	102
Dells Paper & Pulp Serial, 6s 1926-38	*95	...
Eastern Mfg. Co., 7s 1938	91¼	93
Eddy Paper, 7½s 1931	99	102
Escanaba Paper Serial, 6s 1926-39	90	95
Filer Fibre Serial, 7s 1926-39	75	95
Fort Orange Paper, 7s 1942	95	100*
Fox River Paper, 7s 1931	99	...
Gair Co. (The Robt.) 7s 1937	102	105
Gilbert Paper Co., 6½s 1926-29	99	...
Hammermill Paper, 6s 1939	100	103*
Itaska Paper & Prairie River Power J+5½s 1926-38	94	96*
Itaska Paper 1st, 6s 1933-38	96	98*
Kalamazoo Veg. Parchment, 6s 1938	98	...
Lake Superior Pulp & Paper, 6s 1941	102	105*
Marinette & Menominee, 7½s 1936	101	...
Menasha Printing & Carton, 6½s 1939	99½	...
Mengel Company, 7s 1926 to 1934	100*	102
Miami Paper, 7½s 1931	98	...
Monroe Paper Products, 7½s, 1932	96	...
Nekoosa Edwards, 1st Ref. 6s 1928 to 1942	96	99*
Orono Pulp & Paper, 6s 1943	98	...
Orono Pulp & Paper, 5s 1941	94	...
Oswego Falls Corp., 6s 1941	98	100*
Oswego Falls Corp., 6s 1941	95*	100
Oxford Paper, 6s 1947	100	...
Paepcke Paper Mills, 7s 1930	99	...
Parsons Pulp & Lumber, 7s 1928	97	...
Parker Young Co., 6½s 1944	95	99
Paterson Parchment Paper, 6s 1938	101½	...
Penobscot Chemical Fibre, 6s 1942	98	...
Peshtigo Paper, 7s 1942	50	75
Poland Paper, 7s 1930	98	...
Port Alfred Pulp 6½s 1943	*96	...
Richardson Co., 6s 1938	97	...
Spanish River Pulp & Paper, 8s 1941	106	110
Stevens & Thompson Paper, 6s 1942	89	93
St. Croix Paper, 5s 1926-37	95	98*
St. Regis Paper Serial, 6½s 1926-35	98½	...
Tait Paper & Color Industries, 6s 1934	90	...
Taggart Bros. Co., 6s 1944	97	100*
Ticonderoga Pulp & Paper, 5s 1930	90	95*
Ticonderoga Pulp & Paper, 6s 1940	98	100*
Warren (The S. D.) Company, 6s 1945	98	101
Wotab Paper, 6½s 1943	99	103
Westfield River Paper, 7s 1926-43	Wanted	...
Whittaker Paper, 7s 1942	103	106
Witmer-Parsons Pulp & Lbr. (Units)	55	65*

STOCKS	BID	ASKED
Advance Bag & Paper 8% Pfd.	94	98*
Brompton Pulp & Paper 8% Pfd.	93	98*
Brown Corpn., 7% Pfd.	97	100*
Bryant Paper, Com.	11	13
Bryant Paper, Pfd.	9	11
Champion Fibre 7% Pfd.	99	103*
Consolidated Paper, Common	14	...
Diem & Wing, 7% Cum. Pfd.	90	93*
Donnaconna Paper, Com.	49	54
Donnaconna Paper, Pfd.	95	100
Eastern Mfg. Co., 1st Pfd.	34	37
Great Northern Paper, Cap.	285	305
Hammermill Paper, 7% Pfd.	105	110
Hinde & Dauch, Com.	135	...
Hinde & Dauch, Pfd.	100	...
Marathon Paper Mills, Com.	125	...
Louis DeJonge Co., 7% Pfd.	93	96
Munissing Paper, Com.	12	15*
New York & Penna. Co.	Wanted	None Off.
Oxford Papers, Com.	102	...
Oxford Paper Co., Pfd.	100	105
Penobscot Chemical Fibre, Com.	65	75*
Richardson Co., 7% Pfd.	103	...
Rubberoid Company	80	90
Seaman Container, Class B (par $1)	1	None Off.
Seaman Paper Co.	Wanted	None Off.
St. Croix Paper	150	170
St. Regis Paper Co., 7% Cum. Pfd.	97	100
Westfield River Paper Co., 1st Pfd.	Wanted	None Off.
West Virginia Pulp and Paper, Com.	58	61
West Virginia Pulp and Paper, Pfd.	97	102
Whittaker Paper, 7% Cum. Pfd.	99	103

* Nominal

Paper

(F. o. b. Mill)

Ledgers	11.00	@38.00
Bonds	9.00	@45.00
Writings—		
Extra Superfine	14.00	@32.00
Superfine	14.00	@32.00
Tub sized	10.00	@15.00
Engine Sized	8.00	@11.00
News—		
Rolls, contract	3.25	@ —
Rolls, transit	3.30	@ 3.50
Sheets	4.00	@ 4.25
Side Runs	3.00	@ 3.75
Book, Cased—		
S. & S. C.	7.00	@ 9.75
M. F.	6.25	@ 8.75
Coated and Enamel	8.00	@15.00
Lithograph	8.00	@15.00
Tissues—Per Ream—		
White No. 1	.80	@ 1.00
Anti-Tarnish	1.10	@ 1.90
Colored	1.00	@ 2.00
White No. 2	.75	@ .85
Kraft	.90	@ 1.00
Manila	.75	@ .85
Kraft—		
No. 1 Domestic	6.25	@ 6.50
No. 2 Domestic	5.25	@ 5.50
Southern	4.75	@ 5.25
Imported	6.50	@ 7.00
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.75	@ 5.25
No. 2 Wood	4.00	@ 4.50
Butchers	3.75	@ 4.25
Fibre Papers—		
No. 1 Fibre	5.00	@ 5.50
No. 2 Fibre	4.75	@ 5.25
Common Bogus	2.75	@ 3.00
Screenings	3.00	@ 3.25
Card Middles	4.00	@ 5.00
Boards—per ton—		
News	42.50	@45.00
Straw	57.50	@60.00
Chip	40.00	@42.50
Binders' Boards	70.00	@75.00
Sgl. Mla. Lt. Chip	52.50	@55.00
Wood Pulp	67.50	@72.50
Container	55.00	@57.50
Glassine—		
Bleached, basis 25 lbs.	13.00	@16.00
Bleached, basis 20 lbs.	15.00	@16.00

Mechanical Pulp

(Ex-Dock)

No. 1 Imported—		
Moist	36.00	@38.00
Dry	38.00	@40.00
(F. o. b. Mill)		
No. 1 Domestic	30.00	@32.00
Screenings	15.00	@20.00

Chemical Pulp

(Ex-Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	3.75	@ 4.50
Easy Bleaching	3.20	@ 3.35
No. 1 strong unbleached	2.95	@ 3.05
Mitscherlich unbleached	3.00	@ 3.40
No. 2 strong unbleached	2.85	@ 2.90
No. 1 Kraft	2.90	@ 3.05
Sulphate—		
Bleached	3.75	@ 4.00
(F. o. b. Pulp Mill)		
Sulphite (Domestic)—		
Bleached	3.65	@ 4.75
Easy Bleaching Sulphite	3.00	@ 3.25
News Sulphite	2.65	@ 2.85
Mitscherlich	3.25	@ 3.75
Kraft (Domestic)	3.00	@ 3.50
Soda Bleached	3.75	@ 4.00
Sulphate Screenings—		
Coarse	.75	@ .85
Refined	1.75	@ 2.00

Domestic Rags

New Rags

Prices to Mill f. o. b. N. Y.

Shirt Cuttings—		
New White, No. 1	11.00	@11.50
New White, No. 2	7.50	@ 8.00
Silesias No. 1	7.00	@ 7.50
New Unbleached	10.50	@11.00
Washables	4.25	@ 4.75
Fancy	5.25	@ 5.75
Blue Overall	7.00	@ 7.50
New Blue Prints	5.25	@ 5.50
New Soft Blacks	4.00	@ 4.25
Mixed Khaki Cuttings	4.25	@ 5.00
Pink Corset Cuttings	9.50	@10.00
O. D. Khaki Cuttings	5.25	@ 5.75
Men's Corduroy	4.00	@ 4.50
New Mixed Blacks	3.50	@ 3.75

Old Rags

White, No. 1—		
Repacked	5.50	@ 6.00
Miscellaneous	4.75	@ 5.25
White, No. 2—		
Repacked	3.25	@ 3.75
Miscellaneous	2.75	@ 3.00
St. Soiled, White	2.50	@ 2.75
Thirds and Blues—		
Repacked	2.25	@ 2.50
Miscellaneous	1.75	@ 2.00
Black Stockings	3.25	@ 3.75
Roofing Rags—		
Cloth Strippings	1.60	@ 1.70
No. 1	1.60	@ 1.70
No. 2	1.35	@ 1.45
No. 3	1.10	@ 1.15
No. 4	1.10	@ 1.15
No. 5A	.95	@ 1.05

Foreign Rags

New Light Silesias	6.75	@ 7.25
Light Flannelettes	7.50	@ 8.00
Unbleached Cottons	9.50	@10.50
New White Cuttings	10.00	@11.00
New Light Oxfords	7.00	@ 7.50
New Light Prints	5.50	@ 6.50
New Mixed Cuttings	3.00	@ 3.50
New Dark Cuttings	2.75	@ 3.25
No. 1 White Linens	7.00	@ 7.75
No. 2 White Linens	5.00	@ 5.50
No. 3 White Linens	4.00	@ 4.50
No. 4 White Linens	3.00	@ 3.50
Old Extra Light Prints	2.75	@ 3.00
Ord. Light Prints	2.25	@ 2.50
Med. Light Prints	1.85	@ 2.10
Dutch Blue Cottons	2.25	@ 2.50
German Blue Linens	2.25	@ 2.50
German Blue Cottons	2.00	@ 2.25
Checks and Blues	1.75	@ 2.00
Lindsay Garments	1.80	@ 1.90
Dark Cottons	1.70	@ 1.80
Shoppery	1.50	@ 1.60
French Blues	2.25	@ 2.50

Old Rope and Bagging

Prices to Mill f. o. b. N. Y.

Gunny No. 1—		
Foreign	1.65	@ 1.85
Domestic	1.75	@ 1.95
Wool Tares, light	1.75	@ 1.85
Wool Tares, heavy	1.75	@ 1.85
Bright Bagging	1.70	@ 1.80
Small Mixed Rope	1.50	@ 1.65
Manila Rope—		
Foreign	3.75	@ 4.00
Domestic	4.75	@ 5.00
New Burlap Cut	3.00	@ 3.25
Hessian Jute Threads—		
Foreign	3.50	@ 4.00
Domestic	3.25	@ 3.50

Old Waste Papers

(F. o. b. New York)

Shavings—		
Hard, White, No. 1	3.50	@ 3.75
Hard, White, No. 2	3.20	@ 3.30
Soft, White, No. 1	2.90	@ 3.10
Flat Stock—		
Stitchless	1.20	@ 1.30
Overissue Mag.	1.20	@ 1.30
Solid Flat Book	1.15	@ 1.20
Crumpled No. 1	.80	@ .90
Solid Book Ledger	1.90	@ 2.10
Ledger Stock	1.45	@ 1.55
New B. B. Chips	.60	@ .70
Manilas—		
New Env. Cut	2.40	@ 2.60
New Cuttings	1.60	@ 1.85
Extra No. 1 old	1.25	@ 1.35
Print	.70	@ .75
Container Board	.60	@ .65
Bogus Wrapper	.75	@ .80
Old Krafts Machine Compressed bales	1.90	@ 2.10
News—		
No. 1 White News	1.50	@ 1.60
Strictly Overissue	.65	@ .75
Strictly Folded	.55	@ .60
No. 1 Mixed Paper	.45	@ .50
Common Paper	.27	@ .32

A Remarkable Range of Grades, Textures and Weights

Orr Endless Felts can now be obtained up to 86 feet in length.

With our enlarged new equipment we can now furnish Paper Manufacturers with endless felts up to 86 feet in length.

Paper Manufacturers who carefully check manufacturing costs, and also strive to produce more and better paper at a lower cost per ton, prefer the unvarying quality and long service of ORR felts. A trial of them will bring about a preference that will be lasting.

THE ORR FELT & BLANKET COMPANY, Piqua, Ohio

WE WILL BUY

Abitibi Power & Paper Co. 6s	@	102
Great Northern Paper Co.	@	258
Jessup & Moore Paper Co. Common	@	25
Paper & Textile Machinery Co 7s	@	98
St. Regis Paper Co. 6s	@	99
Suncrest Lumber Co. 6s	@	35
Ticonderoga Pulp & Paper Co. 6s	@	97½
Union Lumber Co. 6s, 1930	@	96
Watab Paper Co. 6½s	@	101
West Virginia Pulp & Paper Co. Pfd.	@	99

WE WILL SELL

A. P. W. Pulp & Power Co. 7s	@	103
Eastern Manufacturing Co. 7s, 1938	@	94
Jessup & Moore Paper Co. 1st Pfd.	@	85
Long Bell Lumber Co. 6s, 1946	@	94
Minnesota & Ontario Paper Co. 6s, 1945	@	99
Pickering Lumber Co. 5¾s	@	99
Parker Young Co. 6½s, 1944	@	97
Queen City Paper Co. 7s, 1933	@	98½
St. Lawrence Pulp & Lumber Co. 6s	@	20
United Paperboard Co. Pfd.	@	72½

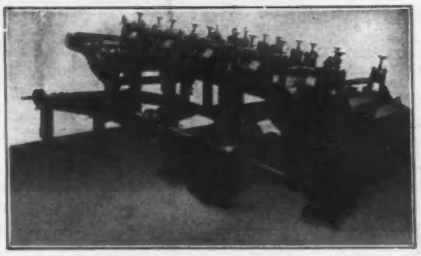
Quotations Subject to Confirmation

H. D. KNOX & CO.

44 Broad St., N. Y. 27 State St., Boston

Inquiries invited on all Paper Pulp Lumber Securities

WALDRON



No. 2734—Brush Type Coater For Book Papers

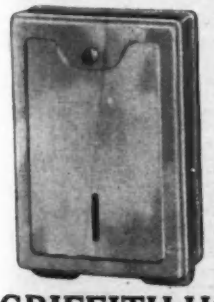
For detailed information regarding any of the Waldron Machines for Paper Converting and Processing — write without obligation — to

JOHN WALDRON CORPORATION

New Brunswick, N. J.

Builders, Since 1827, of Quality Machines For Embossing, Coating, Printing Paper and Textiles —Calenders, Winders, Slitters—Festooning Machines for Paper and Fabric. Special Machinery.

MACHINES



GRIFFITH-HOPE

Dispensing Cabinets

AND

Fixtures

ARE

The STANDARD of the PAPER TRADE

For Towels, Toilet, Napkins, Etc.

GRIFFITH-HOPE CO., West Allis, Wisc.

Twines
(F. o. b. Mill)

Cotton—			
No. 1	.26	@	.27
No. 2	.24	@	.25
No. 3	.22	@	.23
B. C., 18 basis	.36	@	.38
A. B. Italian, 18 basis	.46	@	.51
Finished Jute—			
Dark 18 basis	.24	@	.25
Light 18 basis	.27	@	.28
Jute Wrapping, 3-6 Ply—			
No. 1	.21	@	.23
No. 2	.20	@	.22
Tube Rope—			
4-ply and larger	.18	@	.19
Fine Tube Yarn—			
5-ply and larger	.23	@	.27
4-ply	.24	@	.28
3-ply	.26	@	.30
Unfinished India—			
Basis	.16	@	.17
Paper Makers' Twine			
Balls	.13	@	.15
Box Twine, 2-3 ply	.17	@	.19
Jute Rope	.21	@	.23
Ameri. Hemp, 6	.29	@	.31
Sisal Hay Rope—			
No. 1 Basis	.18	@	.20
No. 2 Basis	.16	@	.18
Sisal Lath Yarn—			
No. 1	.16	@	.18
No. 2	.14	@	.16
Manila Rope	.24	@	.26

CHICAGO

All Rag Bond	.35	@	.41
No. 1 Rag Bond	.25	@	.35
No. 2 Rag Bond	.14	@	.25
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¼	@	.11
Superfine writing	.18	@	.24
No. 1 fine writing	.14	@	.18
No. 2 fine writing	.12	@	.14
No. 3 fine writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
News—Roll, mill	.03½	@	.04¼
News—Sheets, mill	.03¾	@	.04¾
No. 1 Manila	.04¾	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butchers' Manila	.04	@	.04½
No. 1 Kraft	.05¾	@	.06¼
Southern Kraft	.04½	@	.05
No. 2 Kraft	.05	@	.05¼
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue—			
24 x 36 sheet	.07	@	.07¾
White Tissue—			
20 x 30 sheet	.07¼	@	.07½
Boards, per ton— (Delivered Central Territory)—			
Plain Chip	40.00	@	41.50
Solid News	42.50	@	45.00
Manila Line Chip	52.50	@	55.00
Container Lined— (Delivered Central Territory)—			
85 Test		@	60.00
100 Test		@	65.00

Old Papers
F. o. b. Chicago

Shavings—			
No. 1 Hard White	3.60	@	3.70
White Env. Cuttings	3.60	@	3.70
No. 1 Soft Shavings	2.90	@	3.00
No. 1 Mixed	1.35	@	1.45
No. 2 Mixed	1.05	@	1.10
Ledger and Writings	1.45	@	1.60
Solid Books	1.15	@	1.25
Blanks	1.65	@	1.75
Krafts	1.80	@	1.90
New Kraft Cuts	2.25	@	2.35
Manila Envelope Cuttings	1.90	@	2.00
Ex. No. 1 Manila	1.40	@	1.55
Print Manila	.85	@	.90
Folded News (overissue)	.75	@	.85
Old Newspapers—			
No. 1	.65	@	.70
No. 2	.55	@	.60
Mixed Papers—			
No. 1	.55	@	.60
Roofing Stocks— F.o.b. Chicago, net cash			
No. 1	30.00	@	—
No. 2	28.00	@	—

BOSTON

Paper
F. o. b. Mill

Ledgers—			
Sulphite	.07½	@	.15
Rag content	.15	@	.30
All Rag	.38	@	.52½
Bonds—			
Sulphite	.06½	@	.11½
Rag content	.17	@	.45
All Rag	.36½	@	.55
Writings	.07	@	.20
Superfines	.22	@	.50
News	.04	@	.04½
Book, Super	.07	@	.10
Book, M. F.	.06¾	@	.09¾
Book, Coated	.08½	@	.20
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.06	@	.06½
No. 2 Kraft	.05	@	.05¾
Common Bogus	.02¼	@	.02½
Delivered New England points			
Straw Board			57.50
Filled News Board			47.50
Chip Board			45.00
Single Manila Pulp lined board	55.00	@	60.00
Single White, patent coated board bender	75.00	@	80.00
Wood Pulp Board	80.00	@	85.00
Binder Boards	75.00	@	80.00
F. o. b. mill			
Tarred Felts—			
Regular	61.00	@	63.00
Slaters	66.00	@	68.00
Best Tarred, 1 Ply, roll	1.50	@	1.60
Best Tarred, 2 Ply, roll	1.70	@	1.80
Best Tarred, 3 Ply, roll	2.00	@	2.10

Old Papers

Shavings—			
No. 1 Hard White	3.25	@	3.75
White Blank News	1.55	@	1.65
Manila Env. Cuttings	2.00	@	2.25
No. 2 Hard White	3.00	@	3.25
No. 1 Soft White	.03	@	.03¼
No. 2 Soft White	.02½	@	.03
No. 1 Mixed	1.10	@	1.15
No. 2 Mixed	.85	@	.90
Solid Ledger Stock	1.90	@	2.00
No. 1 Books, Heavy	1.15	@	1.25
No. 1 Books, Light	—	@	1.25
No. 1 New Manila	2.25	@	2.50
No. 1 Old Manila	1.50	@	1.75
Print Manila	.85	@	.95
Old Kraft	2.20	@	2.30
Overissue News	.65	@	.75
Old Newspapers	.62½	@	.67½
No. 1 Mixed Paper	.45	@	.52½
Box Board, Chip	.45	@	.60

Bagging
Price f. o. b. Boston

Gunny No. 1—			
Foreign	1.40	@	1.50
Domestic	1.25	@	1.30
Manila Rope—			
Foreign	3.25	@	3.75
Domestic	4.50	@	5.00
Mixed Rope	1.20	@	—
Scrap Burlaps	1.25	@	—
Wool Tares, heavy	1.25	@	—
Mixed Strings	1.20	@	1.30
New Burlap Cutting	2.50	@	2.75

Domestic Rags (New)
Price f. o. b. Boston

Shirt Cuttings—			
New White No. 1	.10	@	.10½
Silesias, No. 1	.07	@	—
New Unbleached	.10	@	—
Fancy	.05½	@	—
Washable	.04½	@	—
Cottons—According to Grades—Blue—			
Blue overalls	.07	@	—
New Black, soft	3.50	@	4.00
Khaki Cuttings	.04½	@	—
Corduroy	.03½	@	.04
New Canvas	.09	@	.10

Domestic Rags (Old)
Price f. o. b. Boston

White No. 1	5.50	@	—
Repacked	6.25	@	6.50
Miscellaneous	5.00	@	—
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Thirds and Blues—			
Repacked	2.60	@	—
Miscellaneous	2.15	@	2.25
Roofing Stock—			
No. 1	1.65	@	1.70
No. 2	1.45	@	1.55
No. 3	1.15	@	1.25
No. 4	1.15	@	1.25

PHILADELPHIA

Paper
F. o. b. Mill

Bonds	.07	@	.40
Ledgers	.11	@	.40
Writings—			
Superfine	.13	@	.18
Extra fine	—	@	.22
Fine	.20	@	.26½
Fine, No. 2	.16	@	.25
Fine, No. 3	.12	@	.20
Book, M. F.	.06¾	@	.07
Book, S. S. & C.	.06	@	.07½
Book, Coated	.11	@	.16
Coated Lithograph	.09	@	.12
Label	.09	@	.12
News	.03¾	@	.04
No. 1 Jute Manila	.09½	@	—
Manila Sul., No. 1	.04½	@	.06
Manila No. 2	.04	@	.04½
No. 2 Kraft	.05	@	.05¼
No. 1 Kraft	.06	@	.06¼
Common Bogus	.02¾	@	—
Straw Board	55.00	@	56.00
News Board	40.00	@	42.50
Chip Board	37.50	@	40.00
Wood Pulp Board	4.50	@	5.00
(Carload Lots)			
Binder Boards—			
No. 1, per ton	85.00	@	90.00
No. 2, per ton	70.00	@	75.00
Carload lots	60.00	@	65.00
Tarred Felts—			
Regular	66.00	@	58.00
Slaters	70.00	@	72.00
Best Tarred, 1-ply (per roll)	1.85	@	1.95
Best Tarred, 2-ply (per roll)	1.55	@	1.70
Best Tarred, 3-ply	2.10	@	2.15
No. 1 Mixed Paper	.65	@	.70

Domestic Rags (New)
Price to Mill, f. o. b. Phila.

Shirt Cuttings—			
New White, No. 1	.11½	@	.12
New White, No. 2	.07	@	.07½
Light Silesias	.07	@	.07½
Silesias, No. 1	.07½	@	.08
Black Silesias (soft)	.05	@	.05½
New Unbleached	.11	@	.11½
Washable	.05	@	.05¼
Fancy	.05½	@	.06
Cottons—according to grades—			
Blue Overall	.07½	@	.08
New Blue	.03½	@	.04
New Black Soft	.05½	@	.06
New Light Seconds	.03	@	.03½
Khaki Cuttings	.05	@	.05½
Corduroy	.03½	@	.03¾
New Canvas	.08	@	.09
New Black Mixed	.05	@	.05½

Bagging
F. o. b. Phila.

Gunny, No. 1—			
Foreign	3.50	@	4.00
Domestic	3.25	@	3.50
Manila Rope	4.25	@	4.50
Sisal Rope	1.25	@	2.00
Mixed Rope	1.25	@	1.50
Scrap Burlaps	2.00	@	2.25
Wool Tares, heavy	2.00	@	2.25
Mixed Strings	1.75	@	2.00
No. 1, New Light Burlap	3.25	@	3.50
New Burlap Cuttings	3.25	@	3.50

Old Papers
F. o. b. Phila.

Shavings—			
No. 1 Hard White	3.50	@	3.60
No. 2 Hard White	3.00	@	3.25
No. 1 Soft White	2.80	@	2.90
No. 2 Soft White	1.90	@	2.00
No. 1 Mixed	1.50	@	1.60
No. 2 Mixed	.90	@	1.00
Solid Ledger Stock	1.90	@	2.00
Writing Paper	1.65	@	1.75
No. 1 Books, heavy	1.15	@	1.20
No. 2 Books, light	.80	@	.85
No. 1 New Manila	2.40	@	2.50
No. 1 Old Manila	1.50	@	1.60
Print Manila	1.00	@	1.10
Container, Manila	.90	@	1.00
Old Kraft	2.00	@	2.20
Common Paper	.50	@	.60
No. 1 Mixed Paper	.60	@	.70
Straw Board, Chip	.75	@	.80
Binders Board, Chip	.75	@	.80
Overissue News	.80	@	.90
Old Newspaper	.60	@	.70

Domestic Rags (Old)

White, No. 1—			
Repacked	5.00	@	5.25
Miscellaneous	4.75	@	5.00
White, No. 2—			
Repacked	.03½	@	.04
Miscellaneous	.02	@	.02¼
Thirds and Blues—			
Repacked	2.50	@	2.75
Miscellaneous	1.75	@	2.00
Black Stockings	3.25	@	3.50
Roofing Stock—			
No. 1	1.55	@	1.65
No. 2	1.40	@	1.50
No. 3	1.25	@	1.35
No. 4	1.20	@	1.30
No. 5A	.90	@	1.00
B	.80	@	.90
C	.80	@	.90

TORONTO

Paper
F. o. b. Mill

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.10¾	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.11¼	@	—
Ledgers (sulphite)	—	@	.13
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09¼	@	—
News f. o. b. Mills—			
Rolls (carloads)	3.25	@	—
Sheets (carloads)	3.75	@	—
Sheets (2 tons or over)	4.00	@	—
Book—			
No. 1 M. F. (carloads)	7.75	@	—
No. 2 M. F. (carloads)	7.50	@	—
No. 3 M. F. (carloads)	7.25	@	—
No. 1 S. C. (carloads)	8.25	@	—
No. 2 S. C. (carloads)	8.00	@	—
No. 3 S. C. (carloads)	7.75	@	—
No. 1 Coated and litho	14.50	@	—
No. 2 Coated and litho	13.50	@	—
No. 3 Coated and litho	12.75	@	—
Coated tinted	.15	@	—
Wrapping—			
Rag Brown	4.85	@	—
White Rag	5.25	@	—
"B" Manila	5.65	@	—
No. 1 Manila	6.65	@	—
Fiber	6.65	@	—
Kraft, M. F.	7.20	@	—
M. G.	7.35	@	—

Pulp
(F. o. b. Mill)

Ground wood	30.00	@	32.00
Sulphite easy bleaching	63.00	@	65.00
Sulphite news grade	55.00	@	60.00
Sulphite, bleached	80.00	@	—
Sulphate	65.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut.	3.60	@	—
Soft White Book shavings	3.00	@	—
White Blk., News	1.50	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.25	@	—
Light and Crumpled Book Stock	1.10	@	—
Ledgers and Writings	1.40	@	—
Solid Ledgers	1.40	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	1.10	@	—
Kraft	2.35	@	—
News and Scrap—			
Strictly Overissue	.90	@	—
Folded News	.90	@	—
No. 1 Mixed Papers	.65	@	.70

Domestic Rags
(Price to mills, f. o. b. Toronto)

	Per lb.		
No. 1 White Shirt Cuttings	.10½	@	—
Fancy Shirt Cuttings	.05	@	.05½